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Nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: methyl scan of the inhibitor linker.

Slon-Usakiewicz JJ, Purisima E, Tsuda Y, Sulea T, Pedyczak A, Fethiere J, Cygler M, Konishi Y.

National Research Council of Canada, Biotechnology Research Institute, Montreal, Quebec, Canada H4P 2R2.

We have designed bivalent thrombin inhibitors, consisting of a nonsubstrate type active site blocking segment, a hirudin-based fibrinogen recognition exosite blocking segment, and a linker connecting these segments. The inhibition provided by the bivalent inhibitors with various linker lengths revealed that a minimum of 15 atoms was required for simultaneous binding of the two blocking segments of the inhibitor to thrombin without significant distortion. The crystal structure of the inhibitors with a 16-atom linker showed some conformational flexibility in the linker portion which still lies deep in the groove joining the active site and the fibrinogen recognition exosite. Since the thrombin S' subsites are not well characterized, we designed a new strategy to search for possible nonpolar interactions between the linker and the thrombin S' subsites. This strategy, the "methyl scan", is based on the incorporation of a methyl side chain at each atom position of the linker by using sarcosine, D,L-alanine, D,L-3-aminoisobutyric acid, or N-methyl-beta-alanine. The methyl groups on the second and the eighth atom positions of the linker, which correspond to the side chains of the P1' and the P3' residues, respectively, improved the affinity of the inhibitors significantly. Further study of the stereospecificity showed that L-Ala at the P1' residue and D-Ala at the P3' residue preferably improved the affinity of the inhibitors 20- and 25-fold, respectively. Molecular modeling calculations using a methyl probe were also carried out to identify favorable nonpolar interacting sites on the thrombin surface. Two sites were identified in the vicinity of the P1' and the P3' residues, supporting the validity of the methyl scan method. Thus, this study has improved our understanding of the interactions taking place in this groove. In particular, we have been able to show that some specific structural features, such as hydrophobic complementarity between the linker and the thrombin S' subsites, could be exploited and make these inhibitors trivalent.

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L8 82 SEA FILE=REGISTRY ABB=ON PLU=ON R'PIP'.G.G'BAL'DYEPIPEEAAE/SQ
SP
L10 82 SEA FILE=REGISTRY ABB=ON PLU=ON L8 AND PHENYL SULFONYL

=> d his

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E WO97-CA745/AP,PRN
L1 1 S E3,E4
SEL RN

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L2 76 S E1-E76
L3 75 S L2 AND 18/SQL
L4 75 S L3 AND 46.150.18/RID AND 46.150.1/RID
L5 75 S L4 AND NC4/ES
L6 75 S L5 AND NC5/ES
L7 75 S L6 AND NR>=6
L8 82 S R'PIP'.G.G'BAL'DYEPIPEEAAE/SQSP
L9 7 S L8 NOT L7
L10 82 S L8 AND PHENYL SULFONYL
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L11 0 S L10

FILE 'HCAPLUS' ENTERED AT 09:42:06 ON 03 FEB 2004
L12 3 S L10
E KONISHI Y/AU
L13 283 S E3,E5,E14
E SLON J/AU
L14 18 S E3-E7
L15 3 S L12 AND (KONISHI ? OR SLON ?)/AU
L16 3 S L12 AND L13,L14

L17 3 S L15,L16

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L18 0 S L10 NOT D

L19 0 S L10 NOT 46.150.1/RID

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L20 0 S L10

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L17 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:94674 HCAPLUS

DN 132:262009

ED Entered STN: 10 Feb 2000

TI Design of P1' and P3' Residues of Trivalent Thrombin Inhibitors and Their Crystal Structures

AU **Slon-Usakiewicz, Jacek J.**; Sivaraman, J.; Li, Yunge; Cygler, Mirosław; **Konishi, Yasuo**

CS Biotechnology Research Institute, National Research Council of Canada, Montreal, QC, H4P 2R2, Can.

SO Biochemistry (2000), 39(9), 2384-2391

CODEN: BICHAW; ISSN: 0006-2960

PB American Chemical Society

DT Journal

LA English

CC 7-3 (Enzymes)

Section cross-reference(s): 75

AB Synthetic bivalent thrombin inhibitors comprise an active site blocking segment, a fibrinogen recognition exosite blocking segment, and a linker connecting these segments. Possible nonpolar interactions of the P1' and P3' residues of the linker with thrombin S1' and S3' subsites, resp., were identified using the "Methyl Scan" method [Slon-Usakiewicz et al. (1997) Biochem. 36, 13494-13502]. A series of inhibitors (4-tert-butylbenzenesulfonyl)-Arg-(D-pipecolic acid)-Xaa-Gly-Yaa-Gly-βAla-Asp-Tyr-Glu-Pro-Ile-Pro-Glu-Glu-Ala-(β-cyclohexylalanine)-(D-Glu)-OH, in which nonpolar P1' residue Xaa or P3' residue Yaa was incorporated, were

designed and improved the affinity to thrombin. Substitution of the P3' residue with D-phenylglycine or D-Phe improved the K_i value to $(9.5 \pm 0.6) + 10^{-14}$ or $1.3 \pm 0.5 + 10^{-13}$ M, resp., compared to that of a reference inhibitor with Gly residues at Xaa and Yaa residues ($K_i = (2.4 \pm 0.5) + 10^{-11}$ M). Similarly, substitution of the P1' residue with L-norleucine or L- β -(2-thienyl)alanine lowered the K_i values to $(8.2 \pm 0.6) + 10^{-14}$ or $(5.1 \pm 0.4) + 10^{-14}$ M, resp. The linker Gly-Gly-Gly- β Ala of the inhibitors in the previous sentence was simplified with 12-aminododecanoic acid, resulting in further improvement of the K_i values to $(3.8 \pm 0.6) + 10^{-14}$ or $(1.7 \pm 0.4) + 10^{-14}$ M, resp. These K_i values are equivalent to that of natural hirudin ($2.2 + 10^{-14}$ M), yet the size of the synthetic inhibitors (2 kD) is only one-third that of hirudin (7 kD). Two inhibitors, with L-norleucine or L- β -(2-thienyl)alanine at the P1' residue and the improved linker of 12-aminododecanoic acid, were crystallized in complex with human α -thrombin. The crystal structures of these complexes were solved and refined to 2.1 Å resolution. The Lys60F side chain of thrombin moved significantly and formed a large nonpolar S1' subsite to accommodate the bulky P1' residue.

ST trivalent thrombin inhibitor design crystal structure

IT Enzyme functional sites

(active; design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

IT Enzyme kinetics

(of inhibition; design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

IT Crystal structure

(of trivalent thrombin inhibitors complexed with thrombin)

IT Structure-activity relationship

(thrombin-inhibiting; design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

IT 9002-04-4D, Thrombin, complexes with trivalent thrombin inhibitors
263367-63-1D, complexes with thrombin 263367-64-2D, complexes with thrombin

RL: PRP (Properties)

(crystal structure; design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

IT 197518-05-1 197518-06-2 197518-07-3

197518-08-4 197519-06-5 223117-53-1

223117-64-4 223117-70-2 223117-75-7

223117-81-5 223117-89-3 223117-95-1

223118-14-7 223118-20-5 223118-31-8

223118-41-0 223118-52-3 223118-59-0

223118-64-7 223118-70-5 223118-76-1

223118-82-9 223118-88-5 223119-00-4

223119-13-9 223119-22-0 223119-28-6

223119-36-6 223119-45-7 223119-53-7

223119-62-8 223119-72-0 223119-78-6

223119-87-7 223119-93-5 223120-02-3

223120-12-5 223120-26-1 223120-49-8

223120-63-6 223120-68-1 223120-74-9

223120-84-1 223120-90-9 223120-97-6

223121-11-7 223121-17-3 223121-22-0

223121-31-1 223121-36-6 223121-41-3

223121-48-0 223121-54-8 223121-58-2

223121-63-9 223121-68-4 223121-74-2

223121-88-8 223121-94-6 223122-01-8

223122-06-3 223122-18-7 223122-23-4

223122-27-8 223122-31-4 223122-37-0

223122-44-9 223122-52-9 223122-63-2

223122-72-3 223122-83-6 263367-65-3

263367-66-4 263367-67-5 263367-68-6 263367-69-7 263367-70-0

263367-74-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

IT 9002-04-4, Thrombin

RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(design of P1' and P3' residues of trivalent thrombin inhibitors and their crystal structures)

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L17 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:271384 HCAPLUS

DN 130:297001

ED Entered STN: 03 May 1999

TI Preparation of trivalent thrombin inhibitors

IN **Konishi, Yasuo; Slon, Jacek**

PA National Research Council of Canada, Can.

SO PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DT Patent

LA English
 IC ICM C07K014-815
 ICS A61K038-58
 CC 34-3 (Amino Acids, Peptides, and Proteins)
 Section cross-reference(s): 1, 7

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9919356	A1	19990422	WO 1997-CA745	19971015
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9746122	A1	19990503	AU 1997-46122	19971015
	AU 761011	B2	20030529		
	EP 1023324	A1	20000802	EP 1997-944656	19971015
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	NZ 503669	A	20010928	NZ 1997-503669	19971015
	JP 2001519442	T2	20011023	JP 2000-515927	19971015
PRAI	WO 1997-CA745	A	19971015		
OS	MARPAT 130:297001				
AB	<p>Trivalent thrombin inhibitors AS-Z-P (AS represents an S subsite blocking segment, P represents a fibrinogen recognition exosite blocking segment, Z represents a S' subsite blocking segment) or their pharmaceutically acceptable salts, were prepared. The S' subsite blocking segment, besides binding to the thrombin S' subsites, connects the S subsite blocking segment and the fibrinogen recognition exosite blocking segment. This binding of Z segment together with the bindings of the AS and P segments, contributes to improve the affinity of the inhibitors significantly. The AS blocking segment and the P segment preferably have the sequence Bbs-Arg-D-Pip- (Bbs = 4-tert-butylbenzenesulfonyl, Pip = pipercolic acid) and Asp-Tyr-Glu-Pro-Ile-Pro-Glu-Glu-Ala-Cha-D-Glu-OH (Cha = β-cyclohexylalanine), resp. The Z segment preferably has the sequence Xaa-Gly-Yaa-Gly-β-Ala where: Xaa, Yaa = Gly, Ala, D-Ala, Val, D-Val, Phe, D-Phe, His, D-His, Nva, D-Nva, Ile, D-Ile, Nle, D-Nle, αAib (2-aminoisobutyric acid), Phg (phenylglycine), D-Phg, Thi (β-(2-thienyl)alanine), D-Thi, Chg (cyclohexylglycine), etc. Thus, Bbs-Arg-D-Pip-Thi-Gly-Gly-Gly-β-Ala-Asp-Tyr-Glu-Pro-Ile-Pro-Glu-Glu-Ala-Cha-D-Glu-OH, having a K_i value of 0.051 ± 0.004 pM, was prepared by the solid phase method using a conventional Fmoc procedure. The preferred inhibitors have K_i values smaller the 1 pM and are useful for treating or preventing vascular diseases.</p>				
ST	peptide prepn trivalent thrombin inhibitor				
IT	Peptides, preparation				
	<p>RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)</p>				
	(preparation of trivalent thrombin inhibitors)				
IT	Blood vessel, disease				
	(treatment of; preparation of trivalent thrombin inhibitors)				
IT	9002-04-4, Thrombin				
	<p>RL: BSU (Biological study, unclassified); BIOL (Biological study)</p>				
	(inhibitors; preparation of trivalent thrombin inhibitors)				
IT	<p>197518-05-1P 197518-06-2P 197518-07-3P 197518-08-4P 197519-06-5P 223117-53-1P 223117-64-4P 223117-70-2P 223117-75-7P 223117-81-5P 223117-89-3P 223117-95-1P 223118-04-5P 223118-14-7P 223118-20-5P</p>				

223118-31-8P 223118-41-0P 223118-52-3P
223118-59-0P 223118-64-7P 223118-70-5P
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223122-63-2P 223122-72-3P 223122-83-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of trivalent thrombin inhibitors)

IT 9002-04-4, Thrombin

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(α -; preparation of trivalent thrombin inhibitors)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L17 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:660911 HCAPLUS

DN 127:316126

ED Entered STN: 18 Oct 1997

TI Nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: methyl scan of the inhibitor linker

AU **Slon-Usakiewicz, Jacek J.**; Purisima, Enrico; Tsuda, Yuko; Sulea, Traian; Pedyczak, Artur; Fethiere, James; Cygler, Mirosław; **Konishi, Yasuo**

CS National Research Council of Canada, Biotechnology Research Institute, Montreal, QC, H4P 2R2, Can.

SO Biochemistry (1997), 36(44), 13494-13502
CODEN: BICHAW; ISSN: 0006-2960

PB American Chemical Society

DT Journal

LA English

CC 7-3 (Enzymes)

AB We have designed bivalent thrombin inhibitors, consisting of a nonsubstrate type active site blocking segment, a hirudin-based fibrinogen recognition exosite blocking segment, and a linker connecting these segments. The inhibition provided by the bivalent inhibitors with various linker lengths revealed that a min. of 15 atoms was required for simultaneous binding of the two blocking segments of the inhibitor to thrombin without significant distortion. The crystal structure of the inhibitors with a 16-atom linker showed some conformational flexibility in the linker portion which still lies deep in the groove joining the active site and the fibrinogen recognition exosite. Since the thrombin S' subsites are not well characterized, we designed a new strategy to search

for possible nonpolar interactions between the linker and the thrombin S' subsites. This strategy, the "methyl scan", is based on the incorporation of a Me side chain at each atom position of the linker by using sarcosine, D,L-alanine, D,L-3-aminoisobutyric acid, or N-methyl- β -alanine. The Me groups on the second and the eighth atom positions of the linker, which correspond to the side chains of the P1' and the P3' residues, resp., improved the affinity of the inhibitors significantly. Further study of the stereospecificity showed that L-Ala at the P1' residue and D-Ala at the P3' residue preferably improved the affinity of the inhibitors 20- and 25-fold, resp. Mol. modeling calcns. using a Me probe were also carried out to identify favorable nonpolar interacting sites on the thrombin surface. Two sites were identified in the vicinity of the P1' and the P3' residues, supporting the validity of the Me scan method. Thus, this study has improved our understanding of the interactions taking place in this groove. In particular, we have been able to show that some specific structural features, such as hydrophobic complementarity between the linker and the thrombin S' subsites, could be exploited and make these inhibitors trivalent.

ST thrombin inhibitor peptide bivalent interaction

IT Methyl group

(Me scan method; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT Enzyme functional sites

Molecular association

(nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT Enzyme kinetics

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(of inhibition; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT Crystal structure

(of thrombin-substrate; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT Conformation

(protein, of thrombin-substrate; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT Peptides, biological studies

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(thrombin inhibitor; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT 159218-12-9 159218-18-5 170429-33-1 170429-34-2 170429-35-3

170429-36-4 170429-37-5 170429-38-6 170429-39-7 170429-40-0

170429-43-3 197518-01-7 197518-02-8 197518-03-9 197518-04-0

197518-05-1

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(as thrombin inhibitor; nonpolar interactions of thrombin S' subsites with its bivalent inhibitor: Me scan of inhibitor linker)

IT **197518-06-2 197518-07-3 197518-08-4**

197518-09-5 197518-10-8 **197518-11-9 197518-12-0**

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197518-26-6 **197518-27-7** 197518-28-8 197518-29-9

197518-31-3 197518-32-4 197518-33-5 197518-34-6 197518-36-8

197518-38-0 197518-39-1 197518-40-4 **197519-06-5**

197717-04-7 197717-09-2 197717-13-8 197717-14-9 197717-16-1

197717-17-2

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use,

unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
 (as thrombin inhibitor; nonpolar interactions of thrombin S' subsites
 with its bivalent inhibitor: Me scan of inhibitor linker)

IT 107-97-1, Sarcosine 144-90-1, 3-Aminoisobutyric acid 302-72-7,
 dl-Alanine 2679-14-3, N-Methyl- β -alanine.
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
 (Uses)
 (in Me scan method; nonpolar interactions of thrombin S' subsites with
 its bivalent inhibitor: Me scan of inhibitor linker)

IT 9002-04-4, Thrombin
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (inhibitors; nonpolar interactions of thrombin S' subsites with its
 bivalent inhibitor: Me scan of inhibitor linker)

IT 9002-04-4, Thrombin
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)
 (nonpolar interactions of thrombin S' subsites with its bivalent
 inhibitor: Me scan of inhibitor linker)

IT 56-41-7, Alanine, biological studies
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (of thrombin; nonpolar interactions of thrombin S' subsites with its
 bivalent inhibitor: Me scan of inhibitor linker)

=> fil reg

FILE 'REGISTRY' ENTERED AT 09:45:40 ON 03 FEB 2004
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STRUCTURE FILE UPDATES: 2 FEB 2004 HIGHEST RN 645336-91-0
 DICTIONARY FILE UPDATES: 2 FEB 2004 HIGHEST RN 645336-91-0

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
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<http://www.cas.org/ONLINE/DBSS/registryss.html>

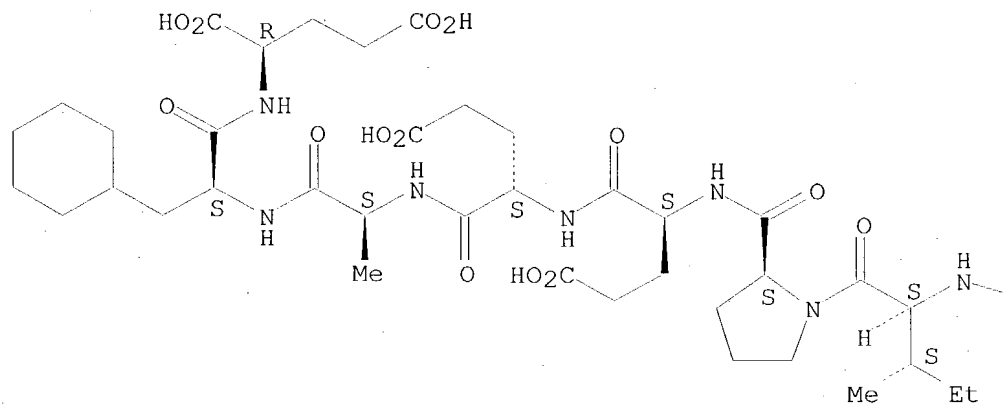
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L10 ANSWER 1 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 263367-74-4 REGISTRY
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 (2R)-2-piperidinecarbonylglycylglycyl-(2S)-2-cyclohexylglycylglycyl- β -
 alanyl-L- α -aspartyl-L-tyrosyl-L- α -glutamyl-L-prolyl-L-
 isoleucyl-L-prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-
 cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C100 H149 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

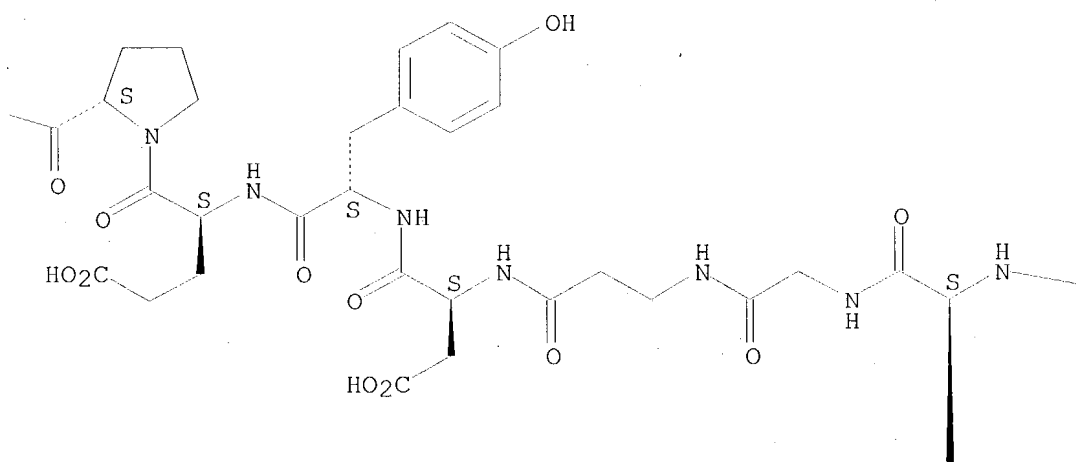
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

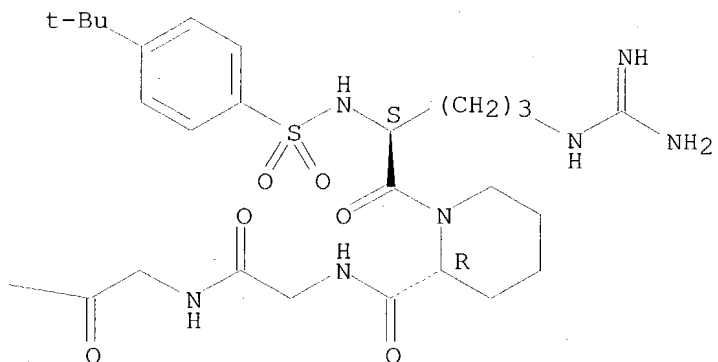
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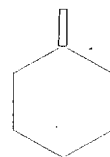
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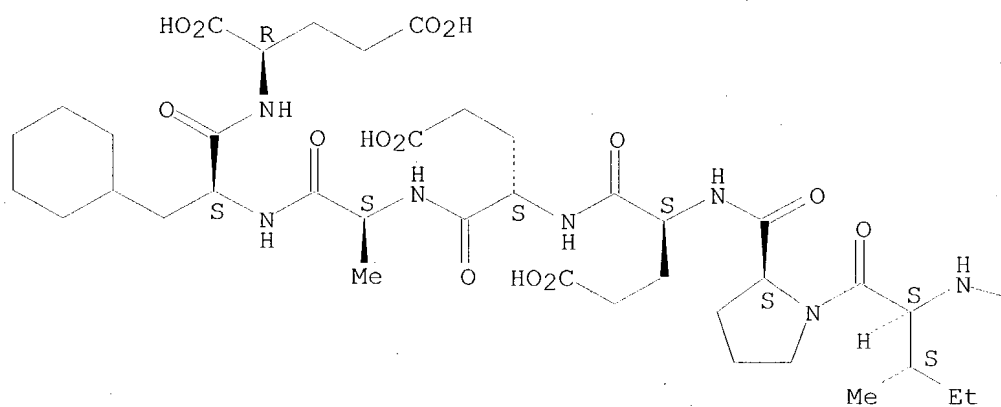
REFERENCE 1: 132:262009

L10 ANSWER 2 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 263367-65-3 REGISTRY
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 FS PROTEIN SEQUENCE; STEREOSEARCH
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 SR CA
 LC STN Files: CA, CAPLUS

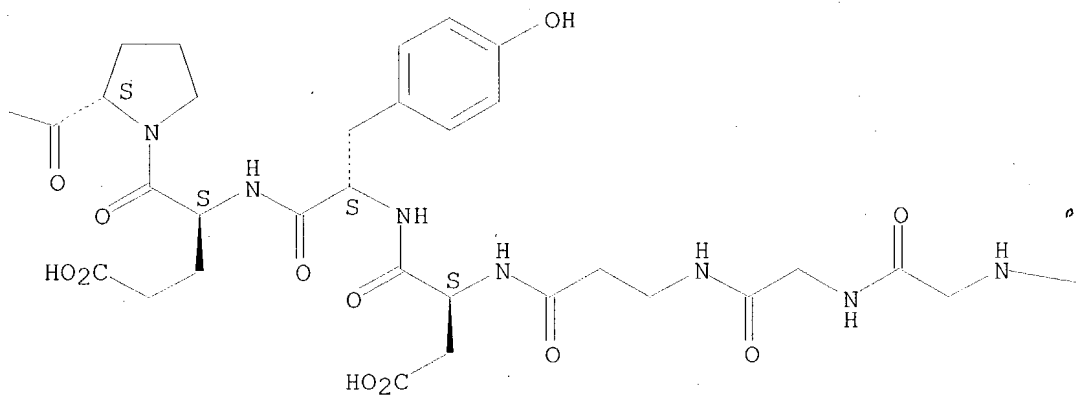
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

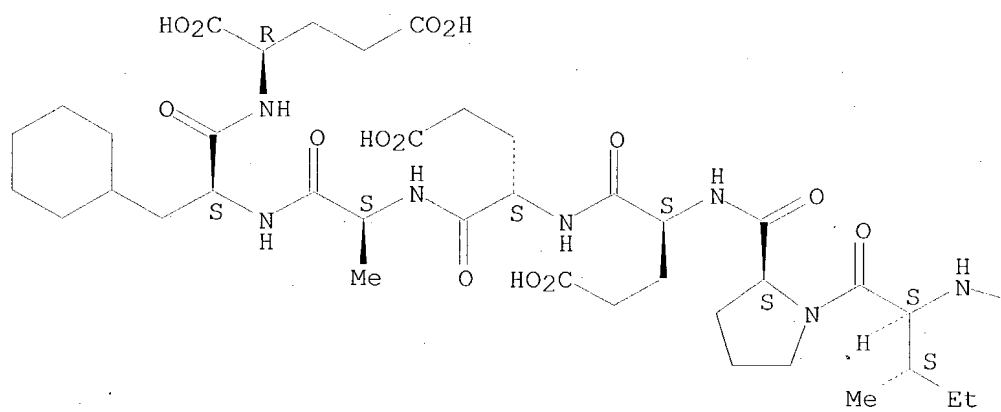
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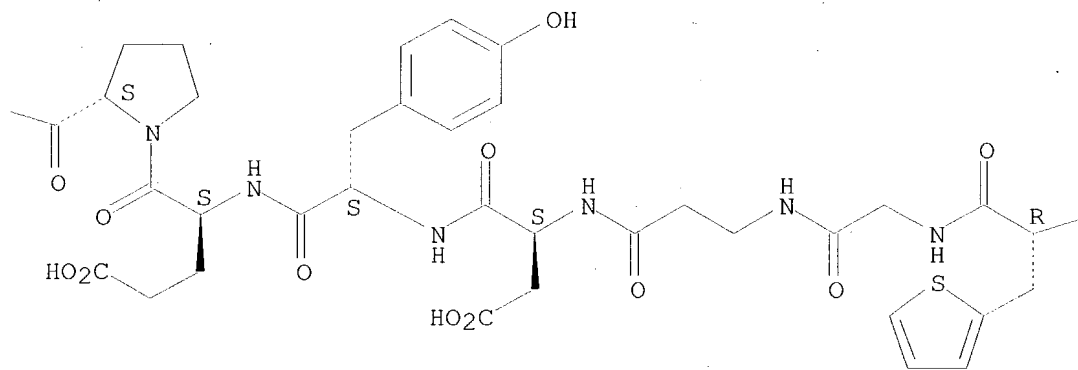
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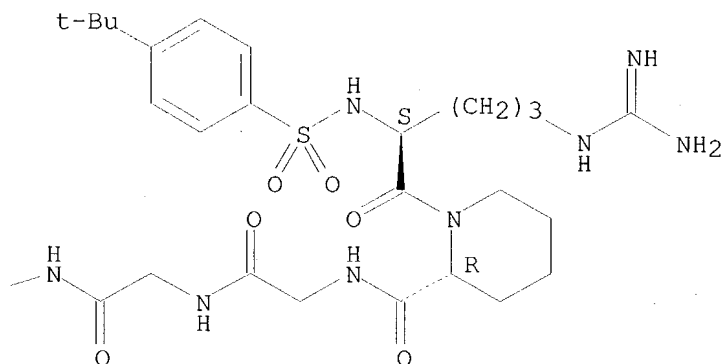
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 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 4 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-72-3 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-(2-thienyl)-L-alanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

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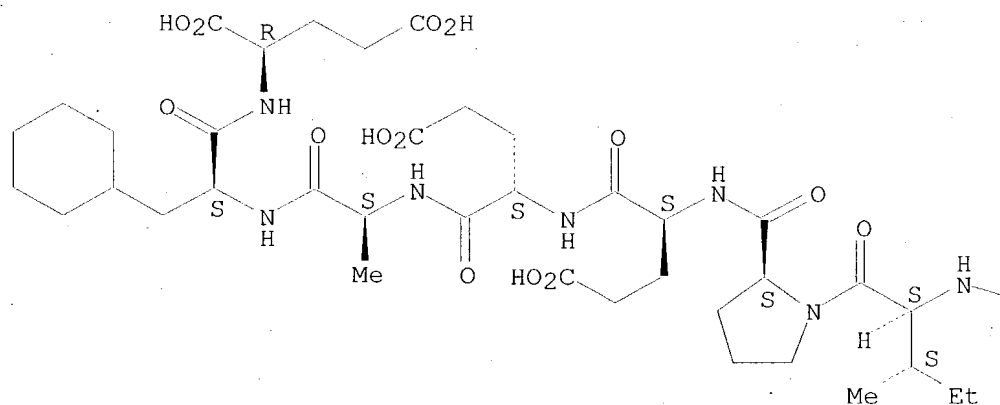
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LC STN Files: CA, CAPLUS

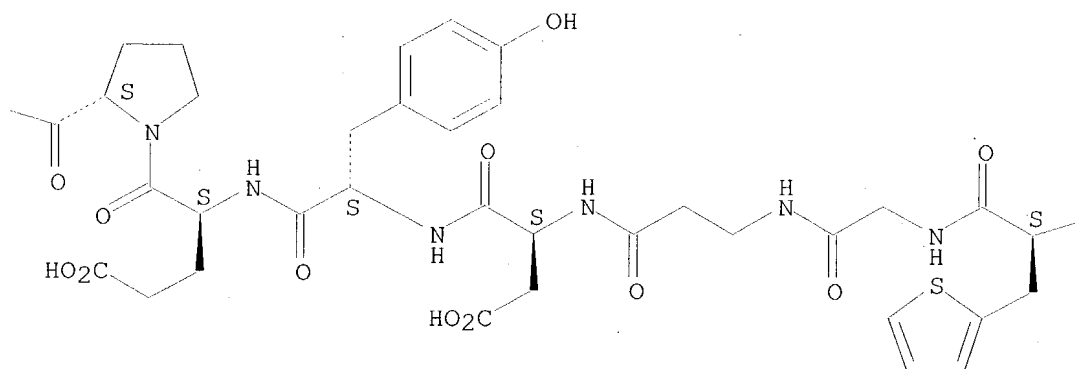
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

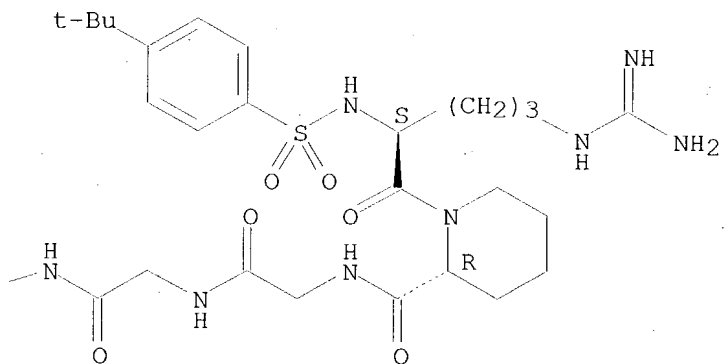
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REFERENCE 2: 130:297001

L10 ANSWER 5 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-63-2 REGISTRY

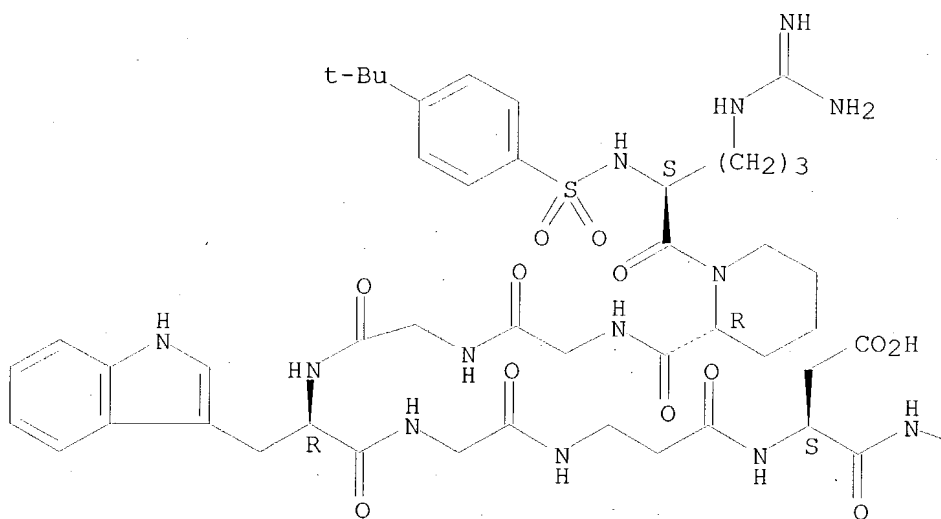
CN D-Glutamic acid, N2-[[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-tryptophylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-

alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C103 H146 N22 O32 S
SR CA
LC STN Files: CA, CAPLUS

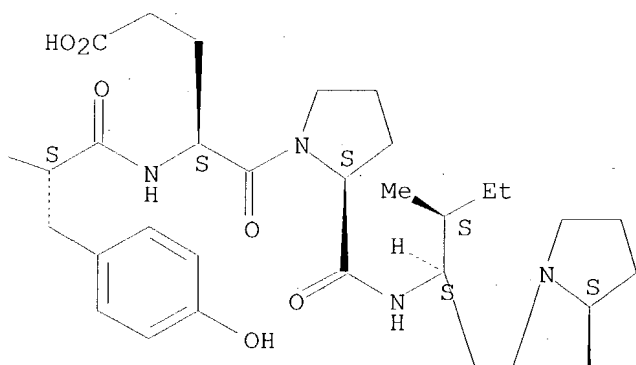
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

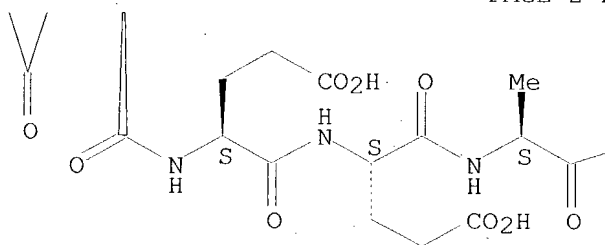
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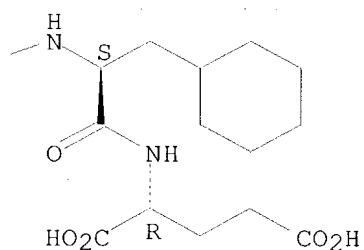
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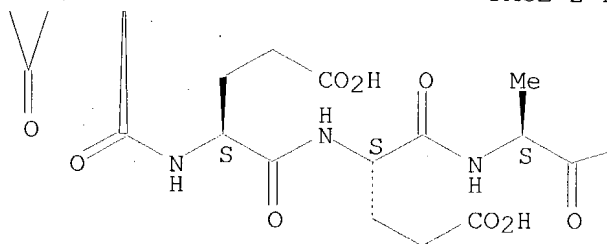
L10 ANSWER 6 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223122-52-9 REGISTRY
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 (2R)-2-piperidinecarbonylglycylglycyl-L-tryptophylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C103 H146 N22 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

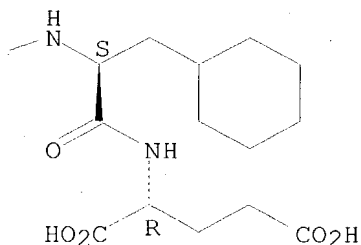
Absolute stereochemistry.

The chemical structure of compound 10 is shown. It features a carboxylic acid group (HO_2C) attached to a chain that includes a thiazolidine ring system. The thiazolidine ring is substituted with a benzene ring bearing a hydroxyl group (OH). The structure also includes a thiazolidine ring with a methyl group (Me) and an ethyl group (Et).

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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 7 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-44-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-histidylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

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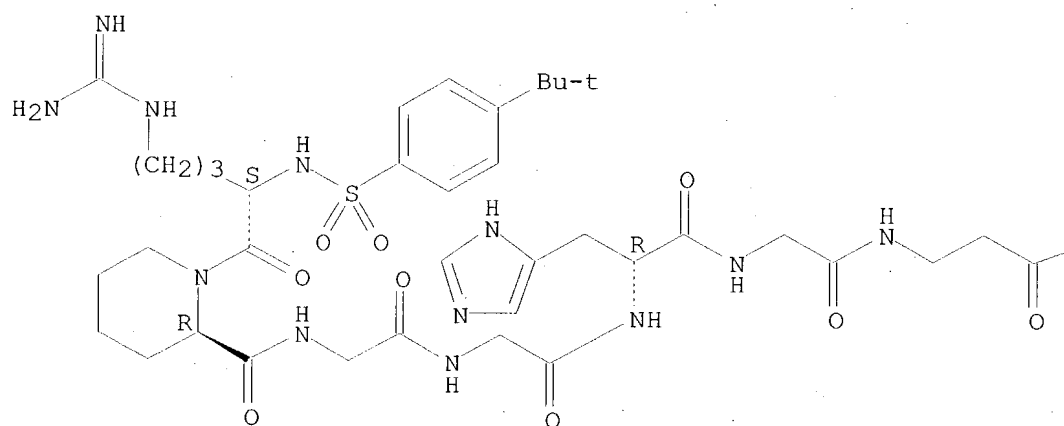
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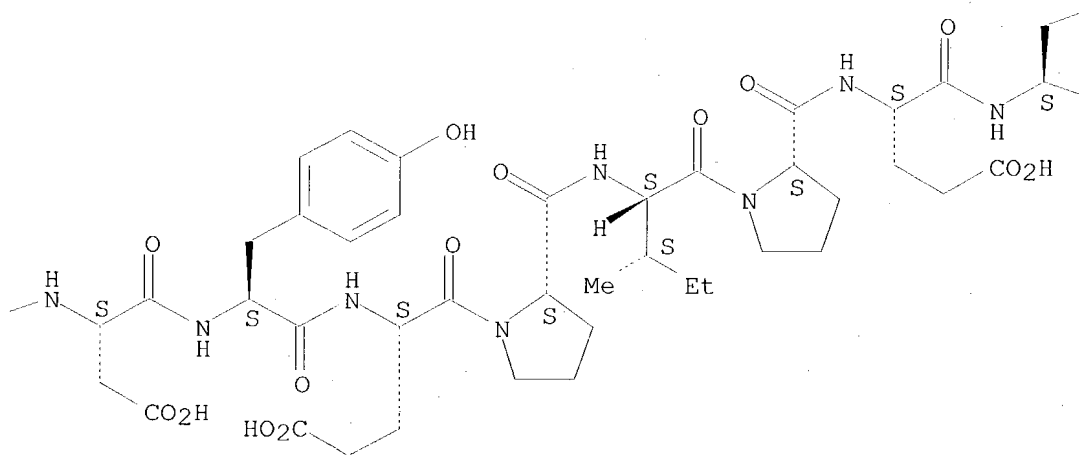
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

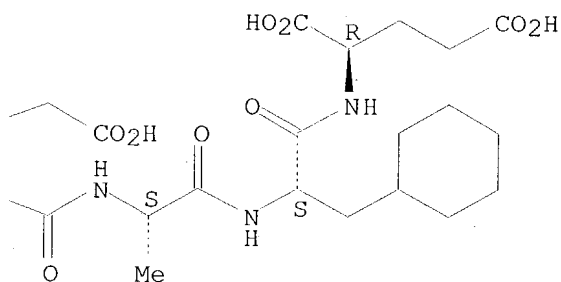
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 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 8 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-37-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
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 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H143 N23 O32 S

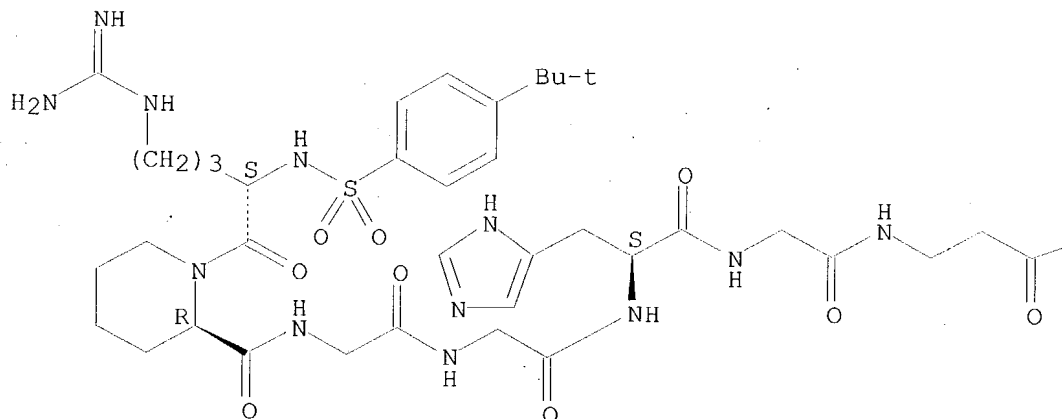
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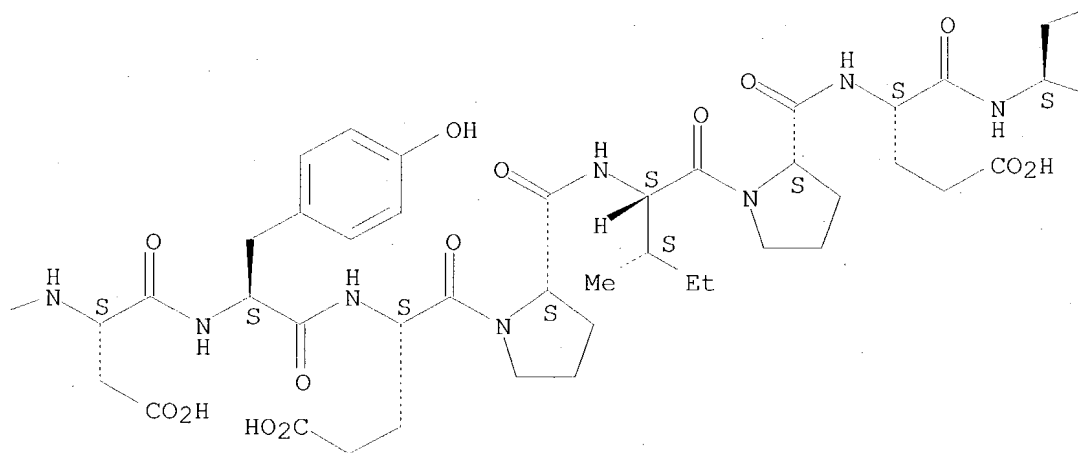
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

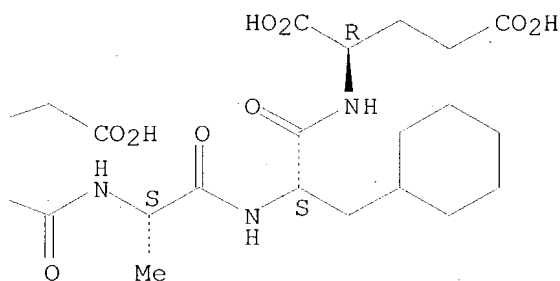
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REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 9 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223122-31-4 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonylglycylglycyl-(αR)-α-
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 α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-
 α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX
 NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

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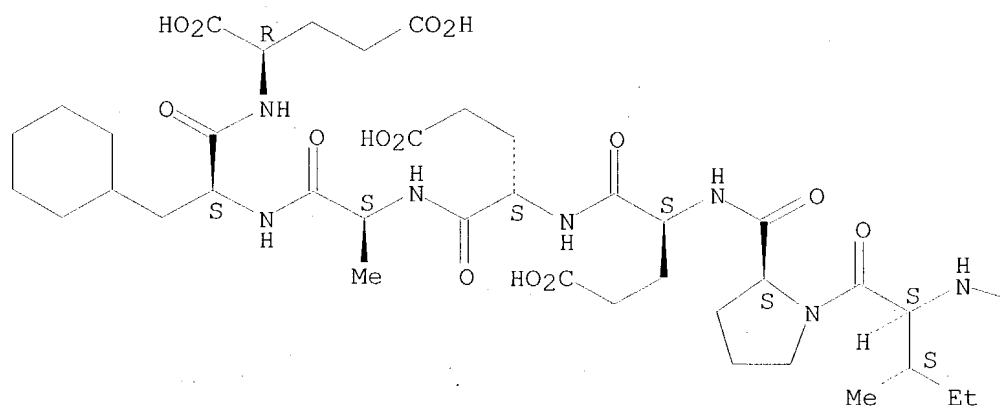
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LC STN Files: CA, CAPLUS

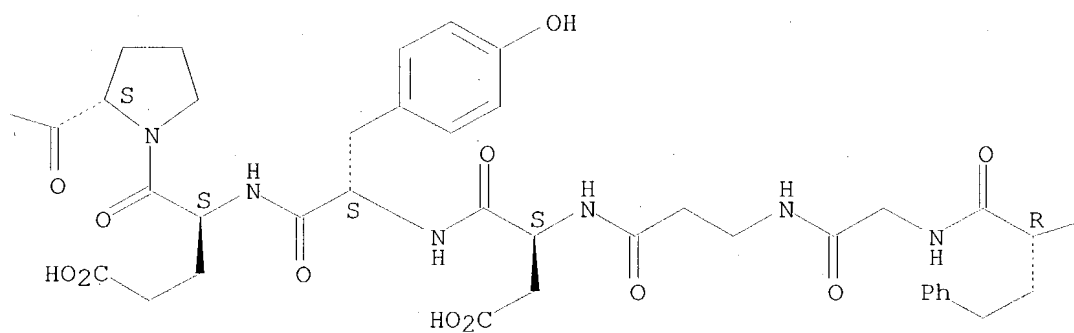
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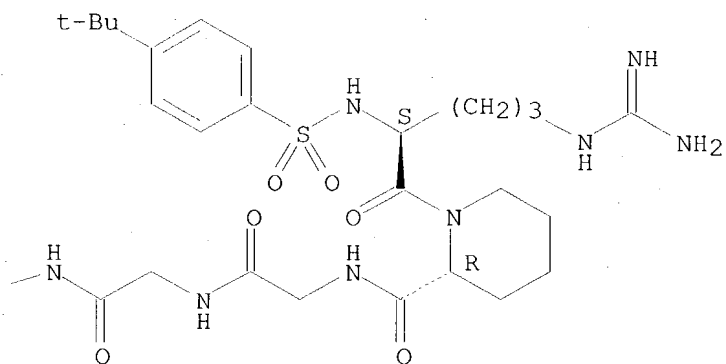
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REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 10 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-27-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-(αS)-α-aminobenzenebutanoylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

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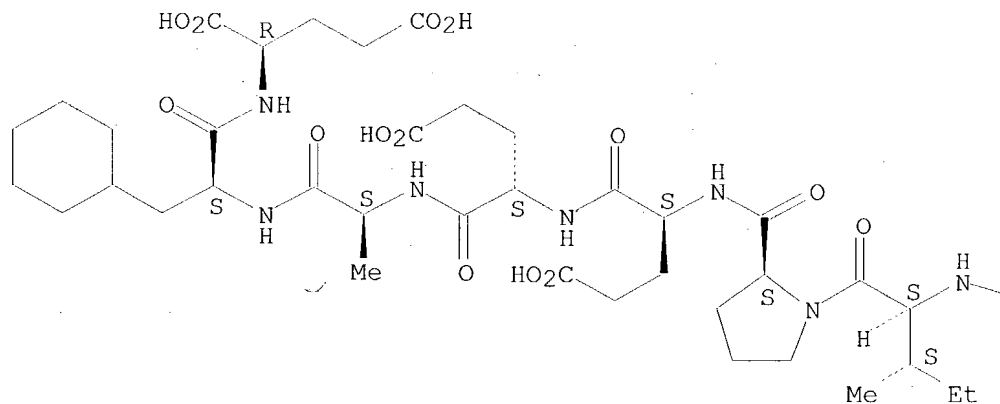
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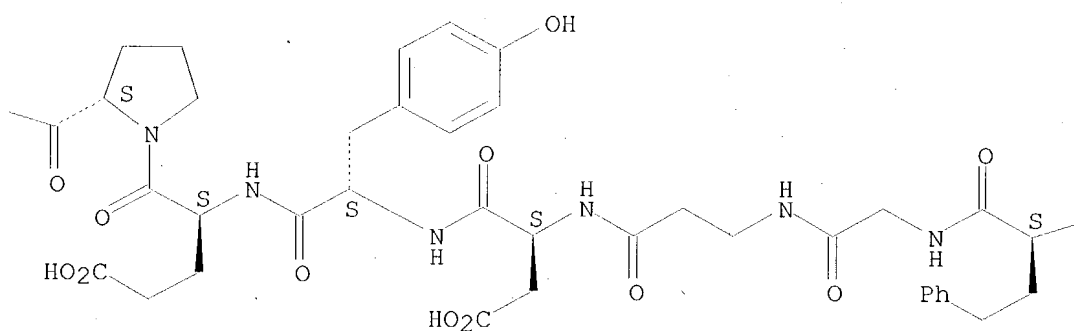
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Absolute stereochemistry.

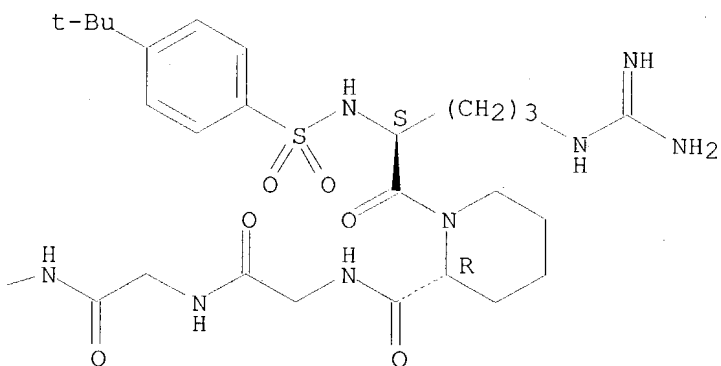
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L10 ANSWER 11 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

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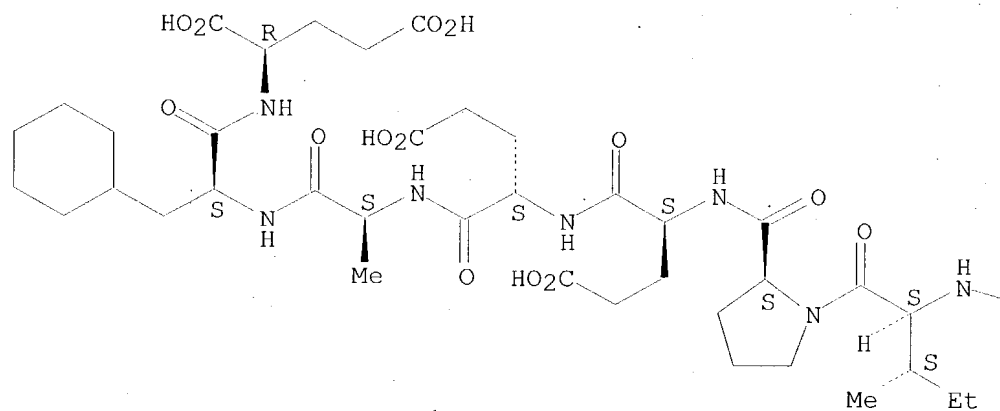
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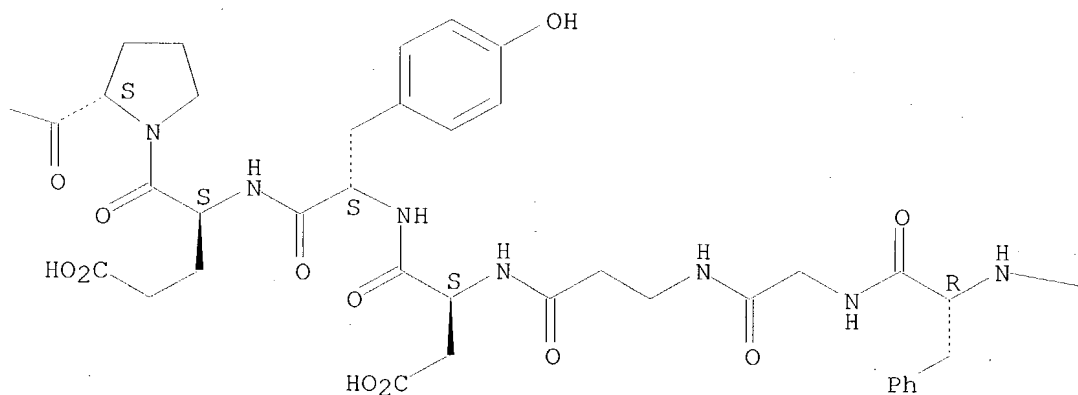
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Absolute stereochemistry.

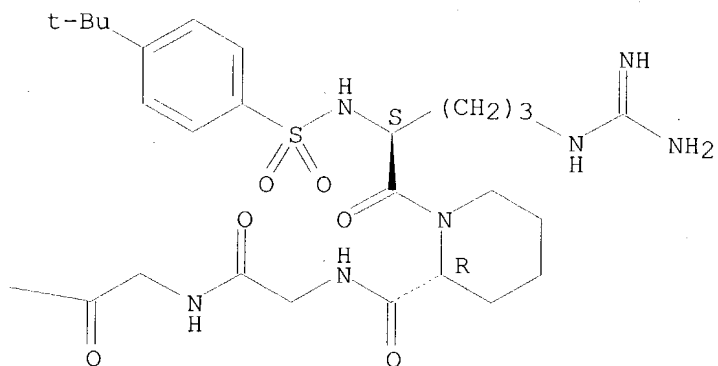
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REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 12 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-18-7 REGISTRY

CN **D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-phenylalanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)**

FS PROTEIN SEQUENCE; STEREOSEARCH

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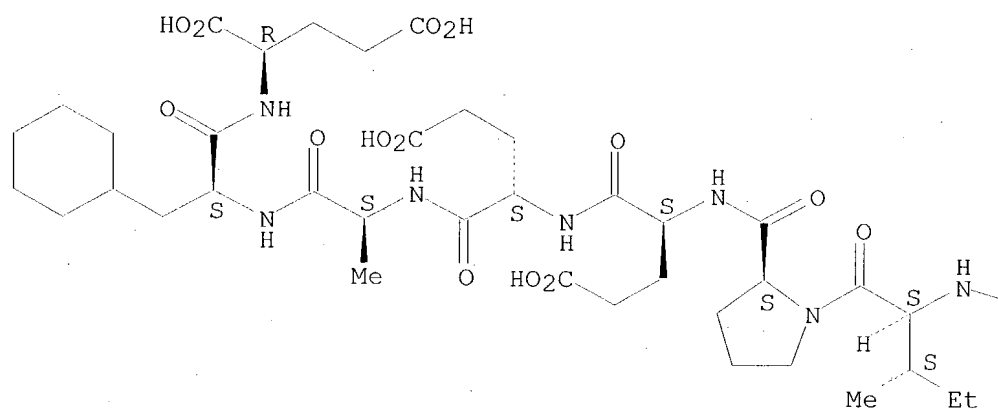
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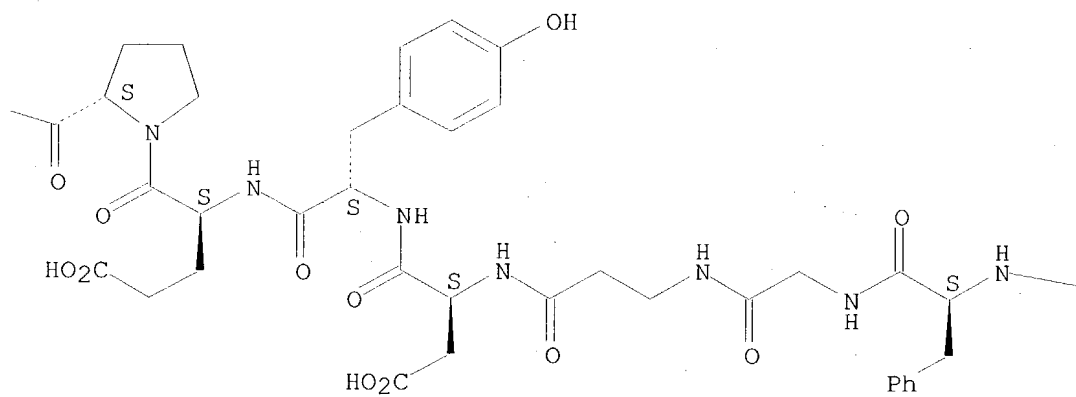
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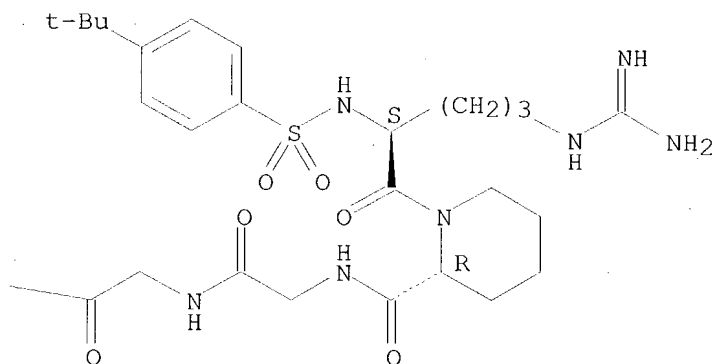
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REFERENCE 2: 130:297001

L10 ANSWER 13 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223122-06-3 REGISTRY

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FS PROTEIN SEQUENCE; STEREOSEARCH

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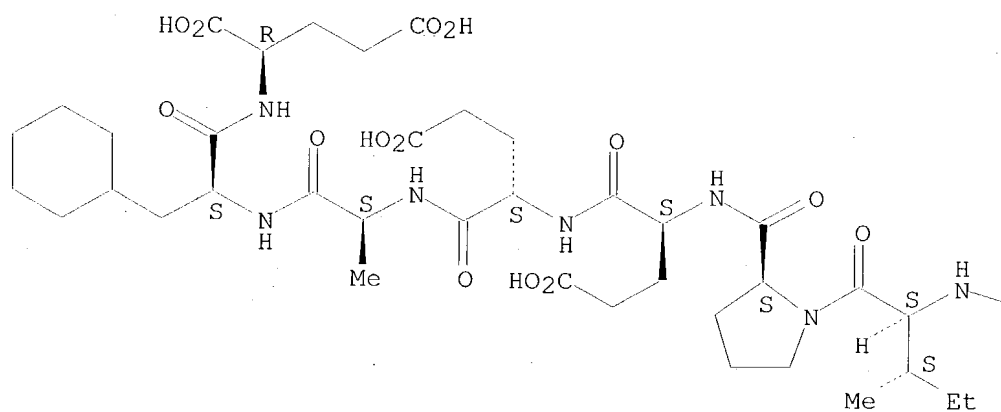
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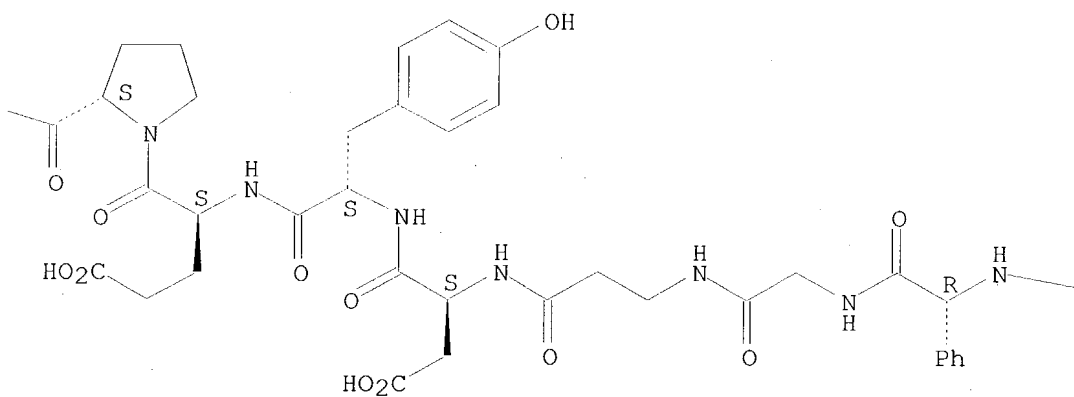
RELATED SEQUENCES AVAILABLE WITH SEQLINK

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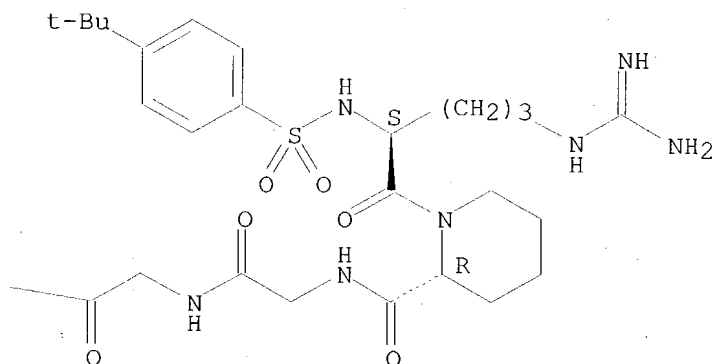
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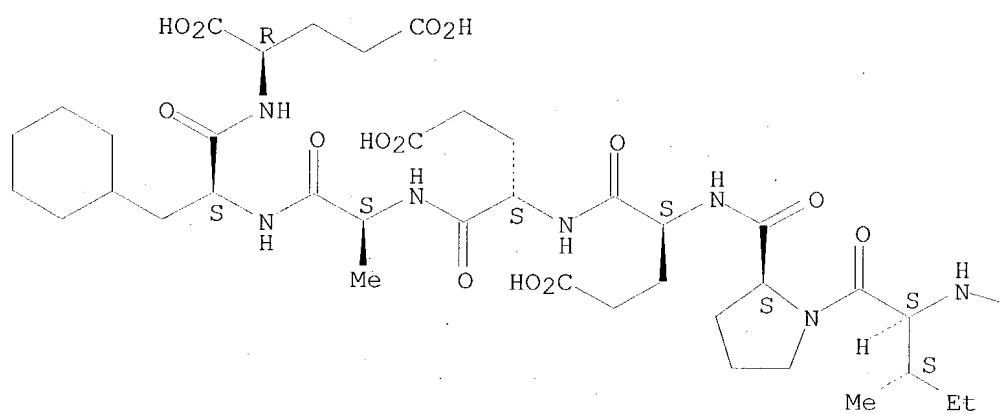
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L10 ANSWER 14 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
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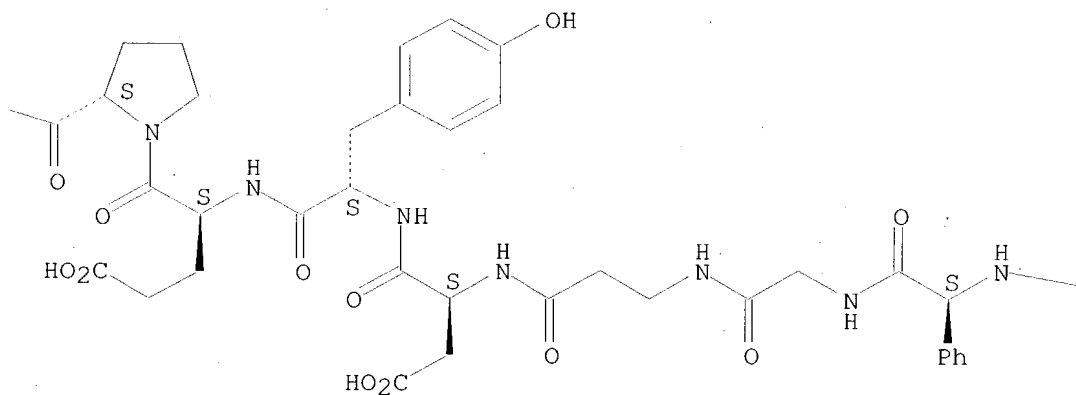
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

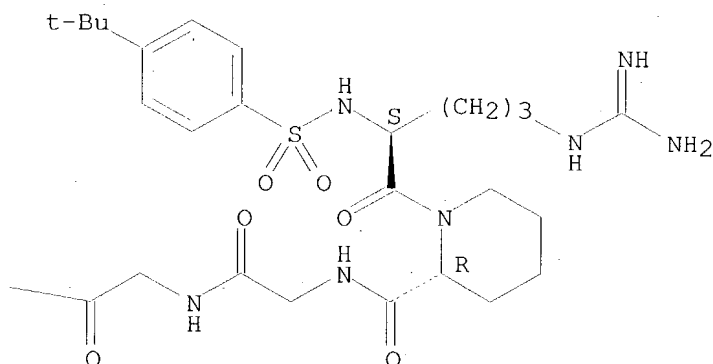
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

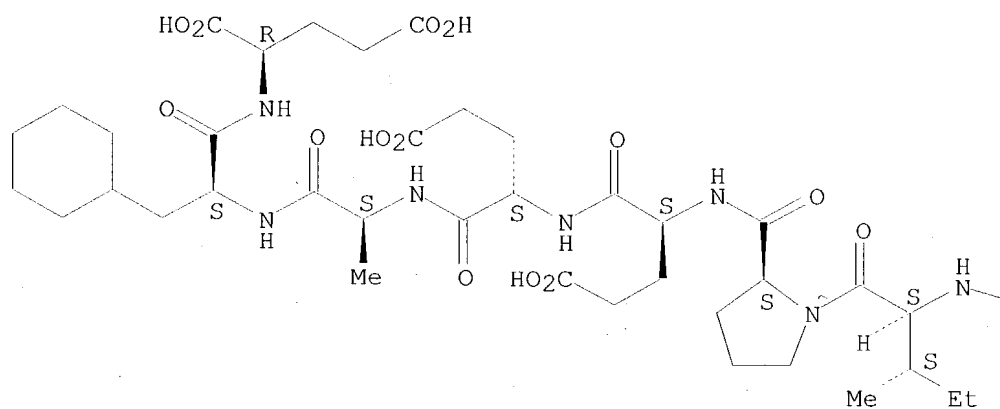
REFERENCE 2: 130:297001

L10 ANSWER 15 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223121-94-6 REGISTRY
 CN **D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-cyclohexyl-D-alanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)**
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C101 H151 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

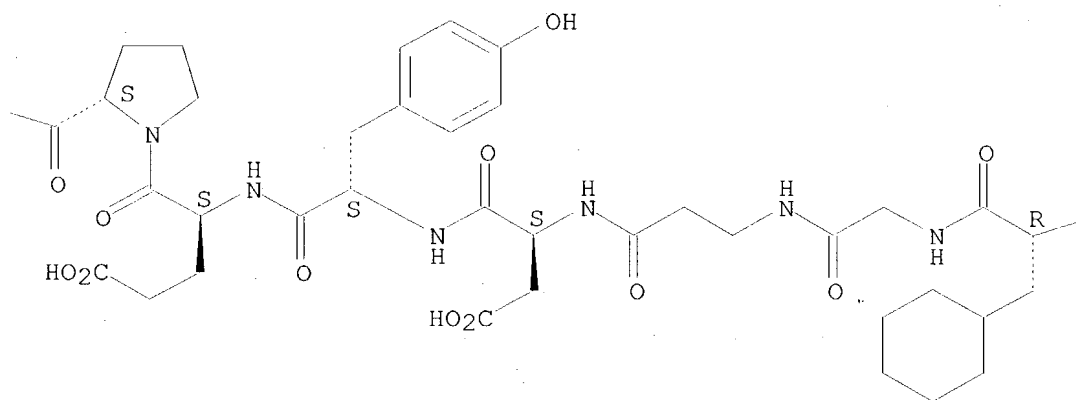
****RELATED SEQUENCES AVAILABLE WITH SEQLINK****

Absolute stereochemistry.

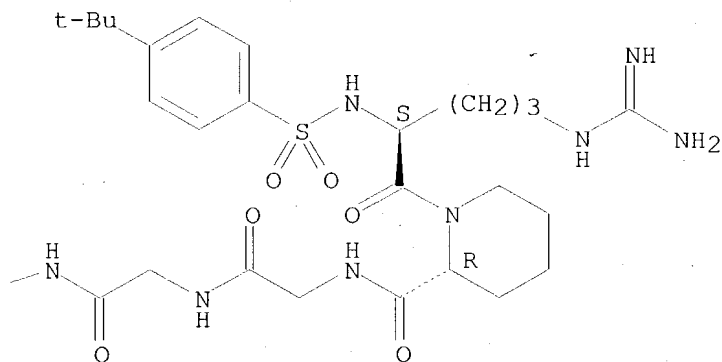
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 16 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-88-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-cyclohexyl-L-alanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C101 H151 N21 O32 S

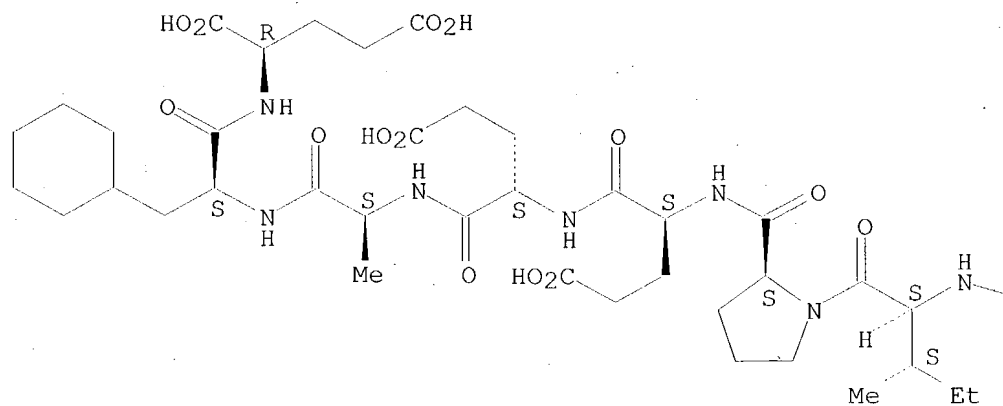
SR CA

LC STN Files: CA, CAPLUS

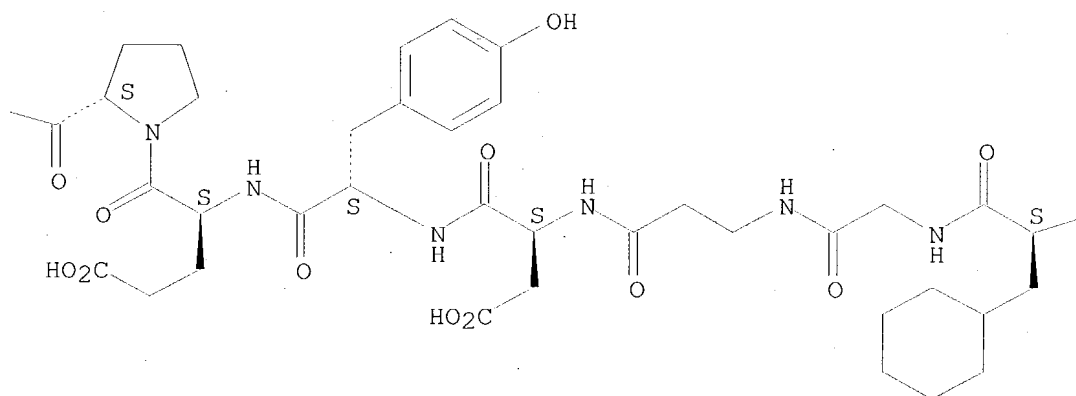
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

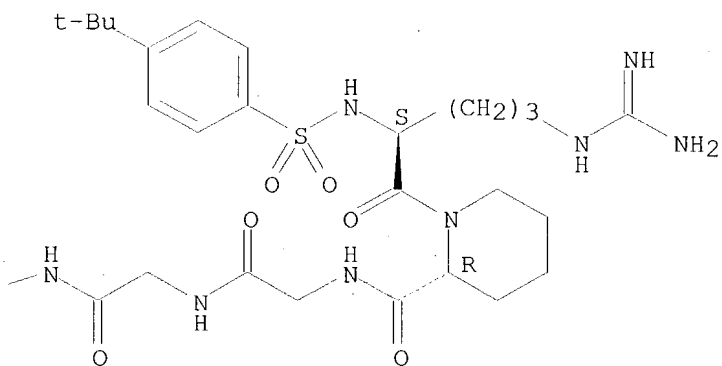
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 17 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-81-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonylglycylglycyl-2-cyclohexylglycylglycyl-β-
 alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-

isoleucyl-L-prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C100 H149 N21 O32 S

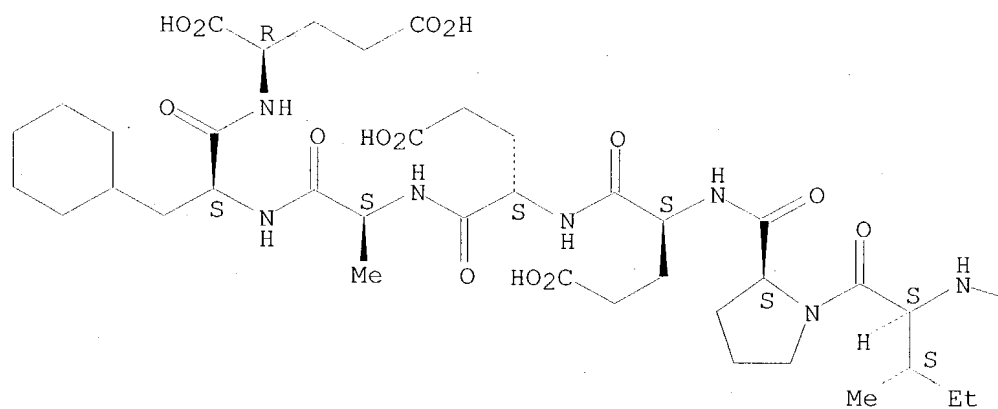
SR CA

LC STN Files: CA, CAPLUS

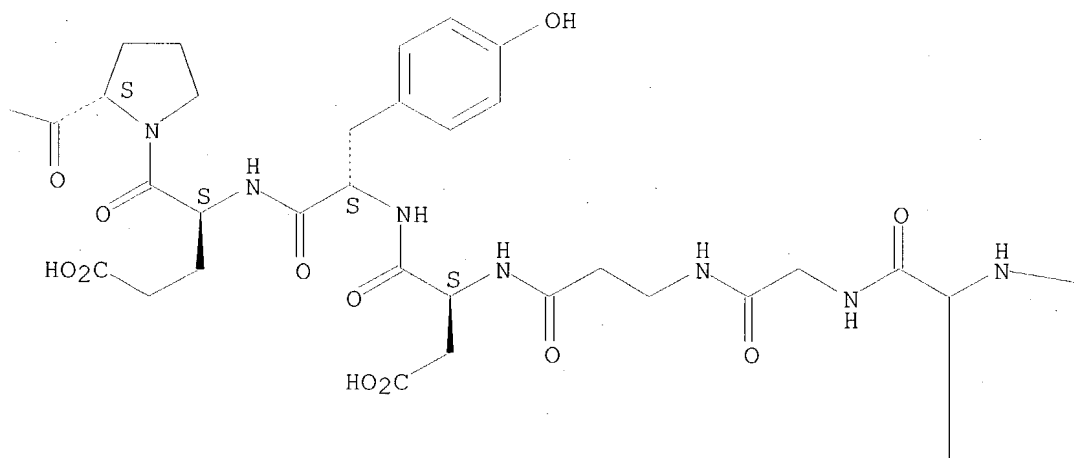
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

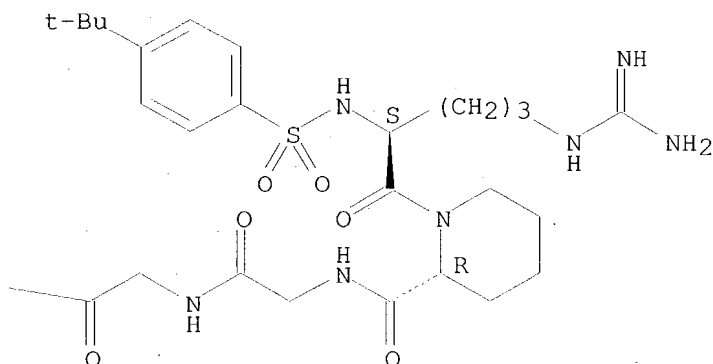
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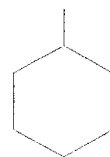
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PAGE 2-B



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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

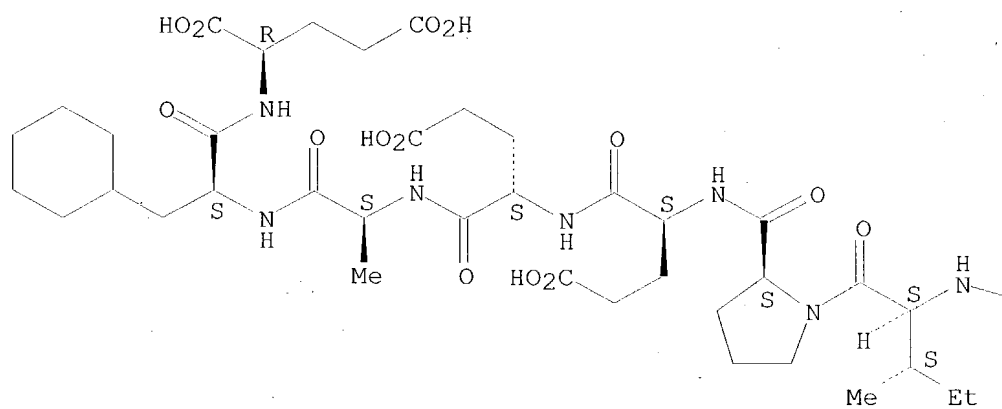
REFERENCE 1: 130:297001

L10 ANSWER 18 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223121-74-2 REGISTRY
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 (2R)-2-piperidinecarbonylglycylglycyl-D-leucylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C98 H147 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

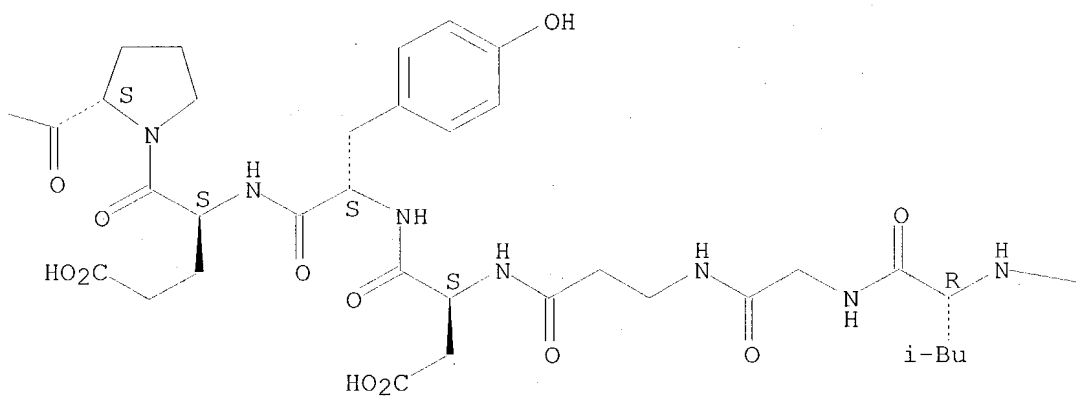
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

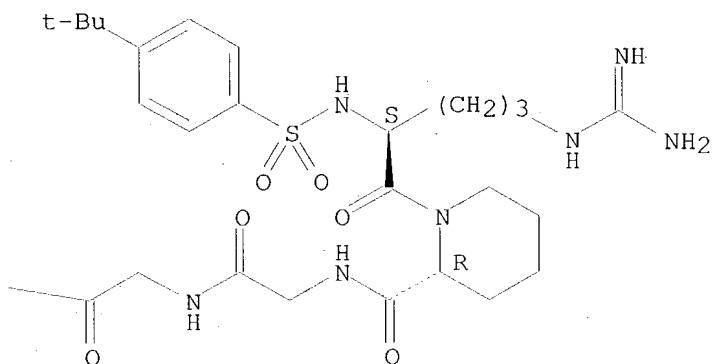
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 19 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-68-4 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-glycylglycyl-L-leucylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

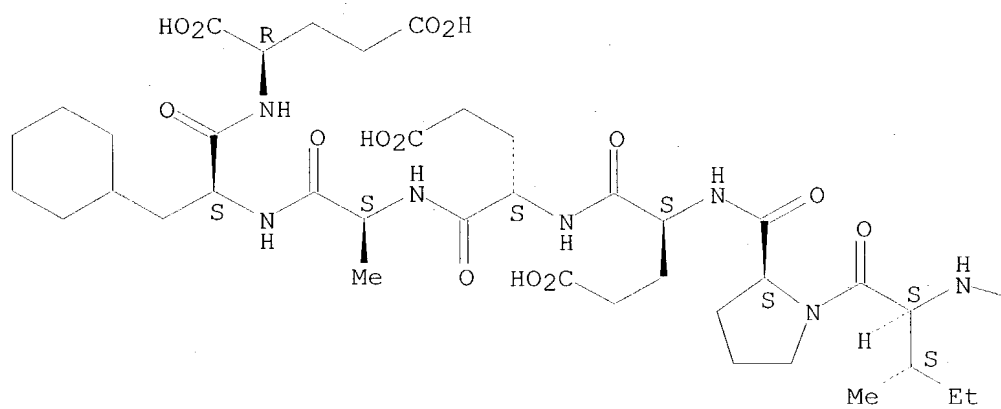
SR CA

LC STN Files: CA, CAPLUS

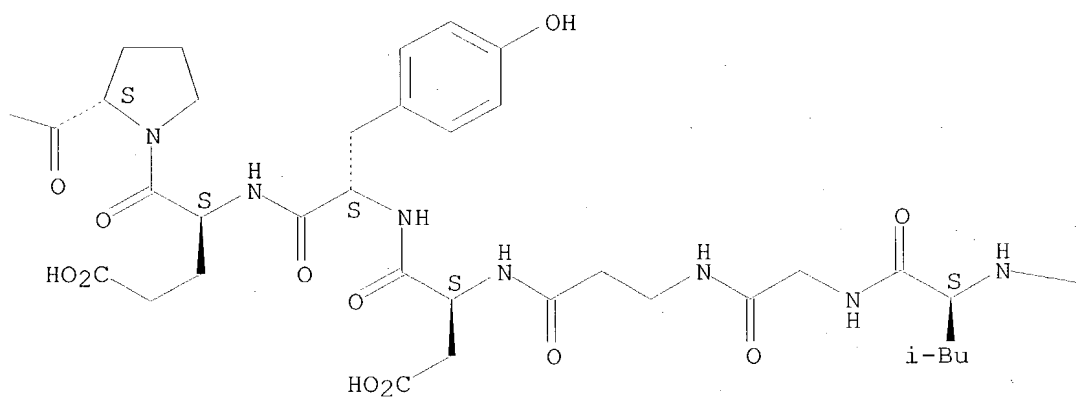
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

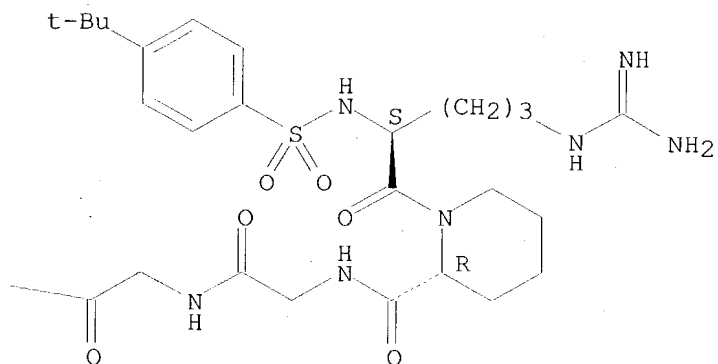
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 20 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-63-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-isoleucylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

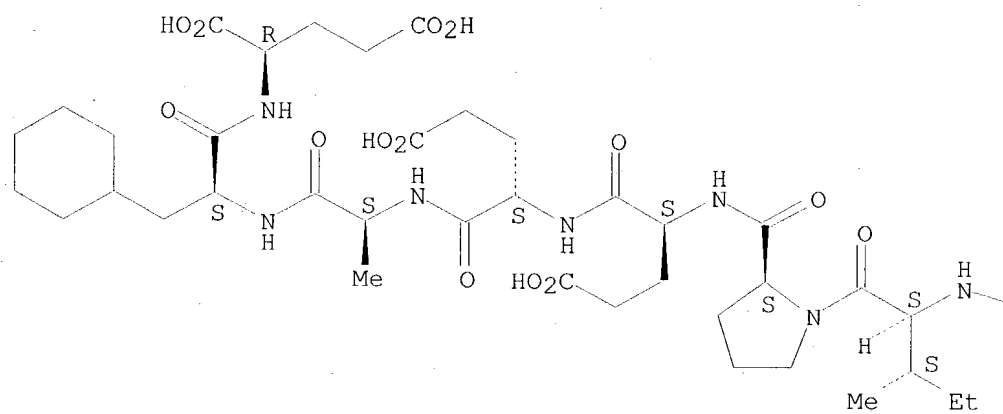
SR CA

LC STN Files: CA, CAPLUS

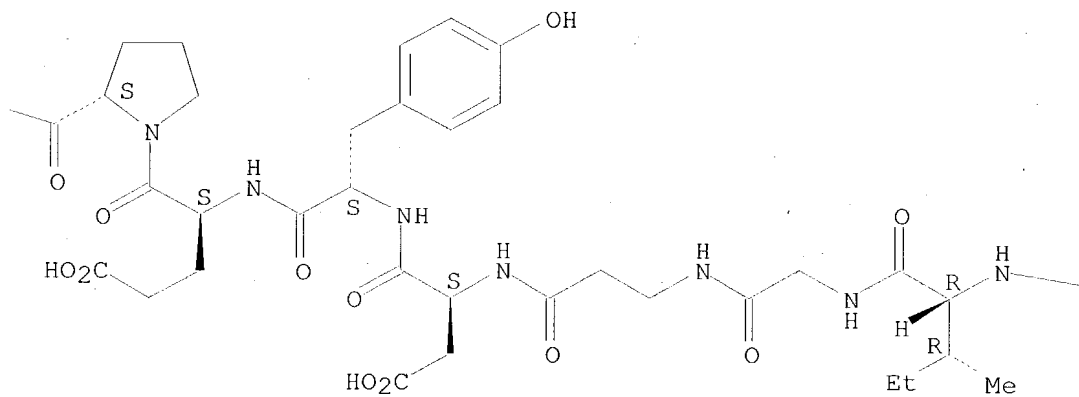
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

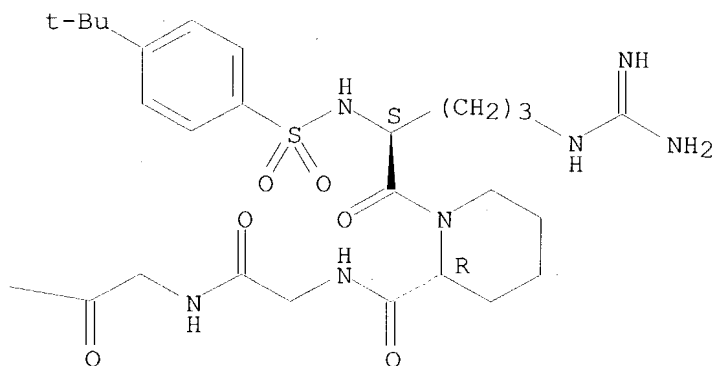
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 21 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-58-2 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-isoleucylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

SR CA

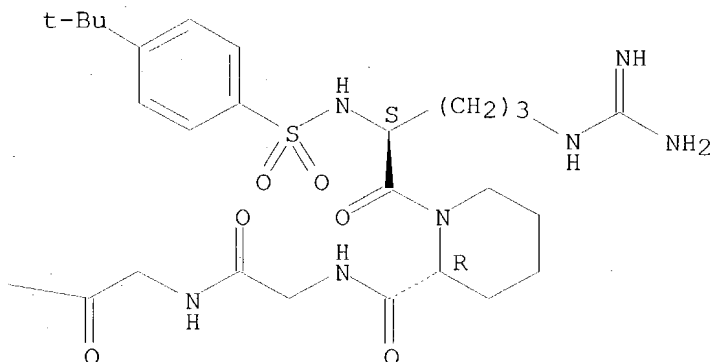
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

Chemical structure of compound 10, showing a complex peptide derivative with a thiazolidine ring, a hydroxybenzyl group, and a thiazolidine-terminated chain with an ethyl and methyl group.

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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 22 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-54-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycyglycyl-3-methyl-D-valylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

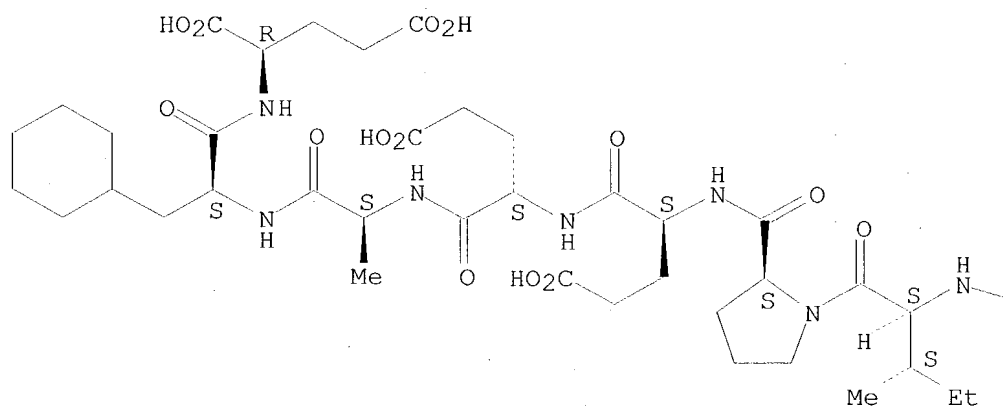
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LC STN Files: CA, CAPLUS

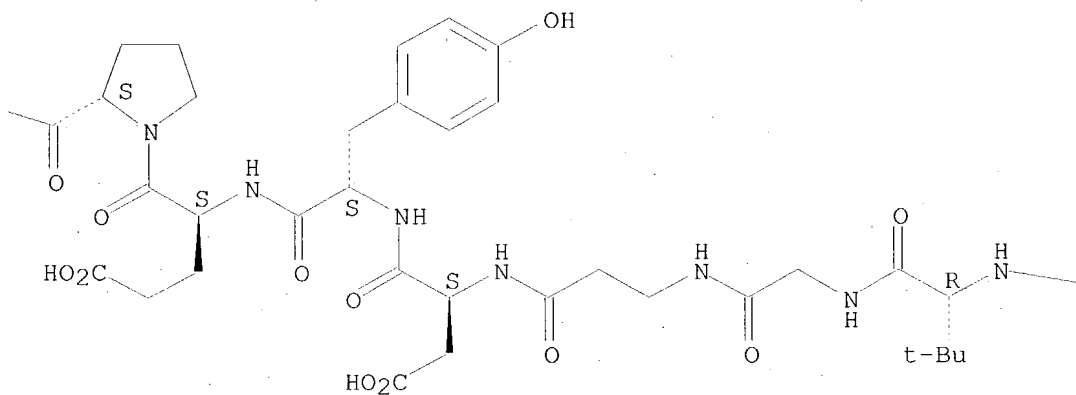
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

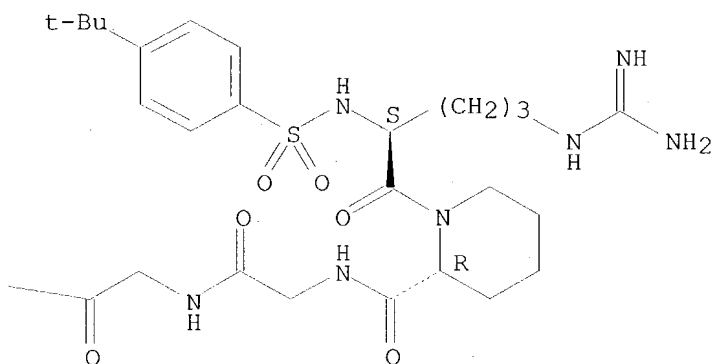
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 23 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-48-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-methyl-L-valylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

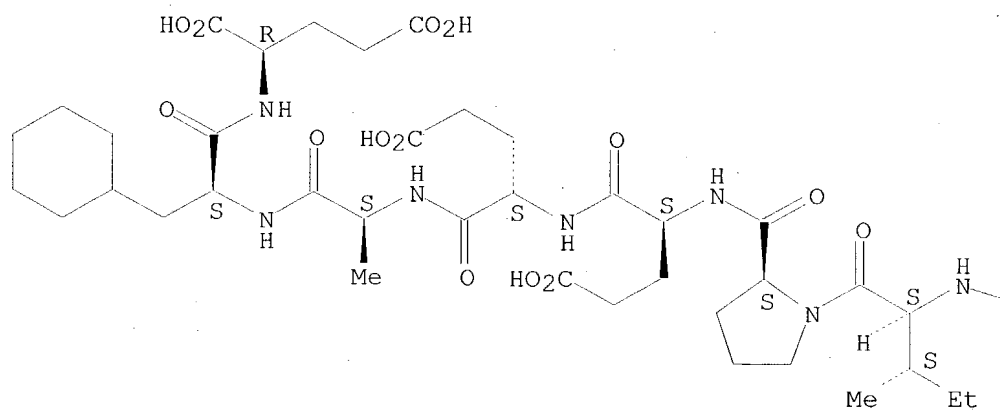
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LC STN Files: CA, CAPLUS

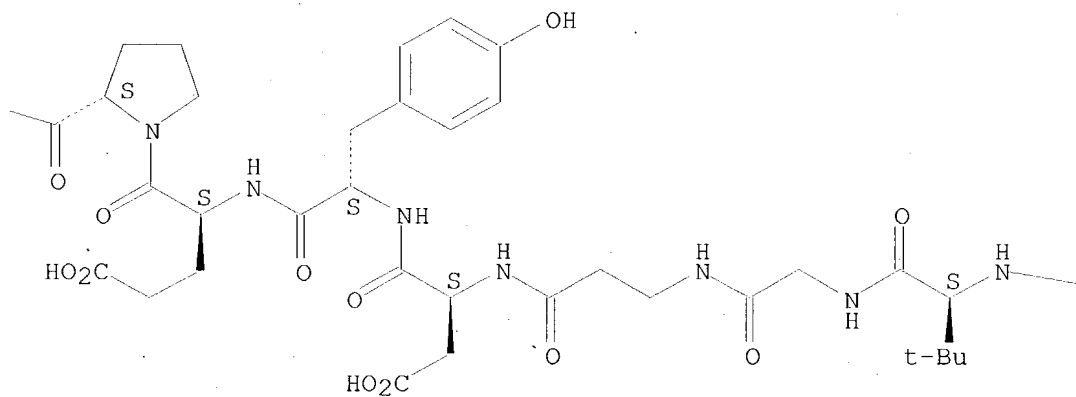
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

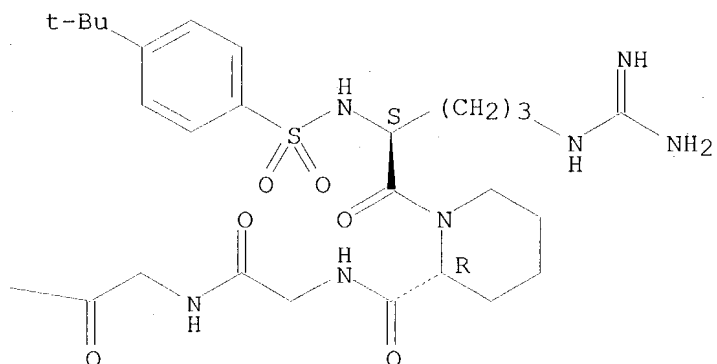
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 24 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-41-3 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-valylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

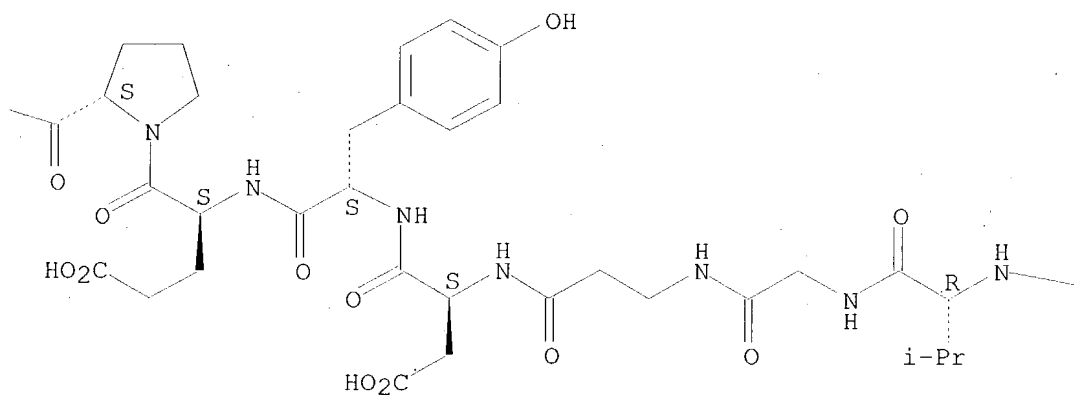
MF C97 H145 N21 O32 S

SR CA

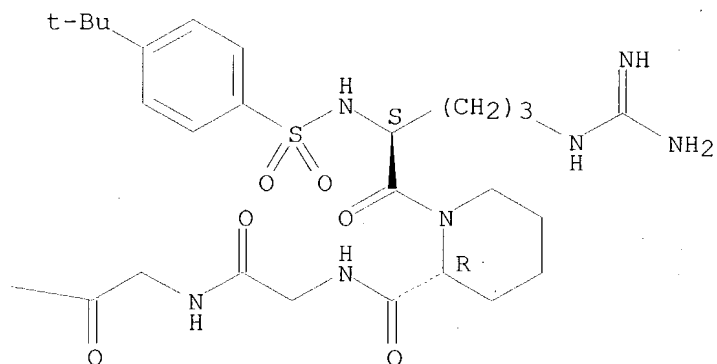
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



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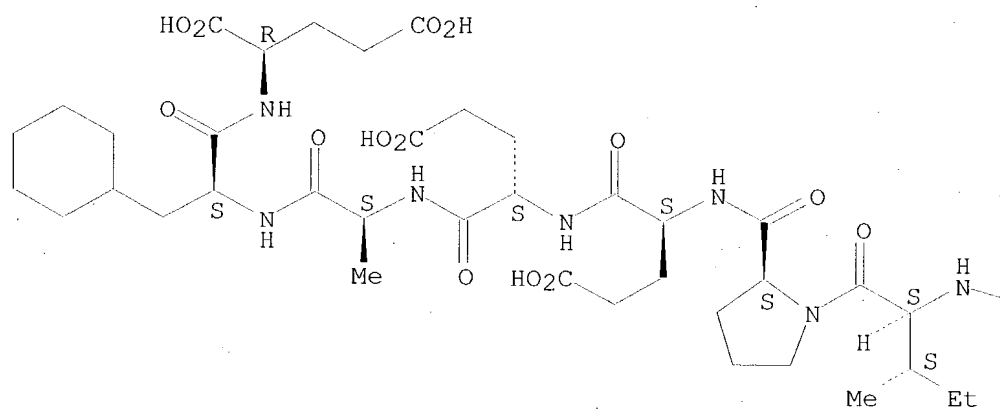
REFERENCE 2: 130:297001

L10 ANSWER 25 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223121-36-6 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-valylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C97 H145 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

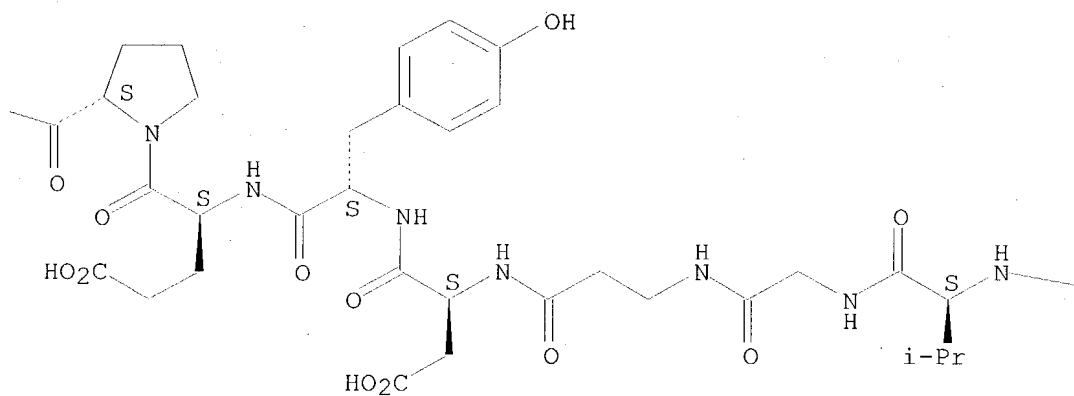
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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Chemical structure of a substituted 1,2,3,4-tetrahydropyrimidin-2(1H)-one derivative. The structure features a 4-tert-butylphenylsulfonyl group attached to the 4-position of the pyrimidine ring. A (3-aminopropyl)thio group is attached to the 5-position of the pyrimidine ring. The pyrimidine ring is substituted with an R group at the 6-position. The pyrimidine ring is connected to a 2-oxo-3-(2-oxo-3-oxopropylamino)propyl chain.

REFERENCE 2: 130:297001

RN 223121-31-1 REGISTRY

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S2

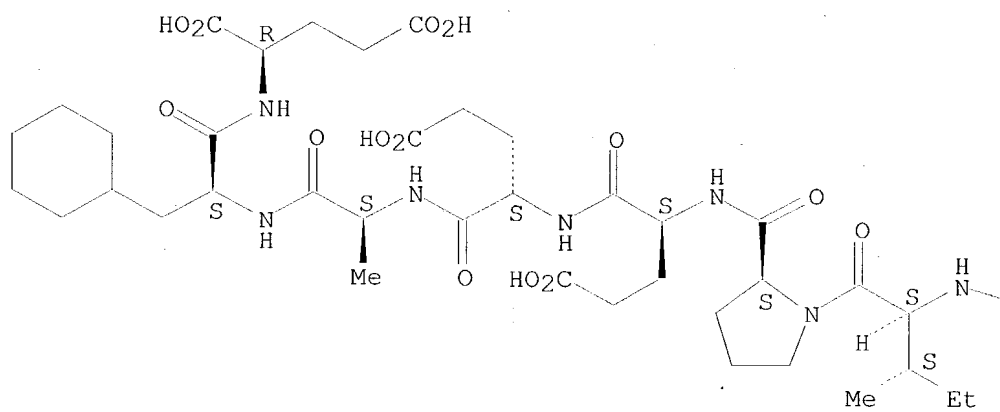
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LC STN Files: CA, CAPLUS

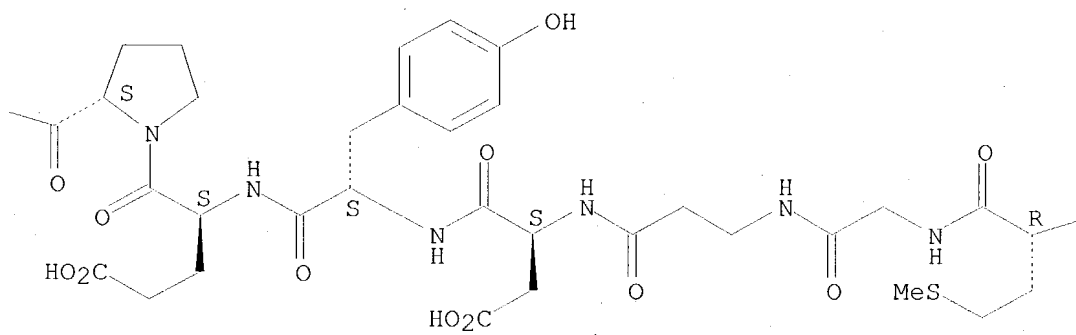
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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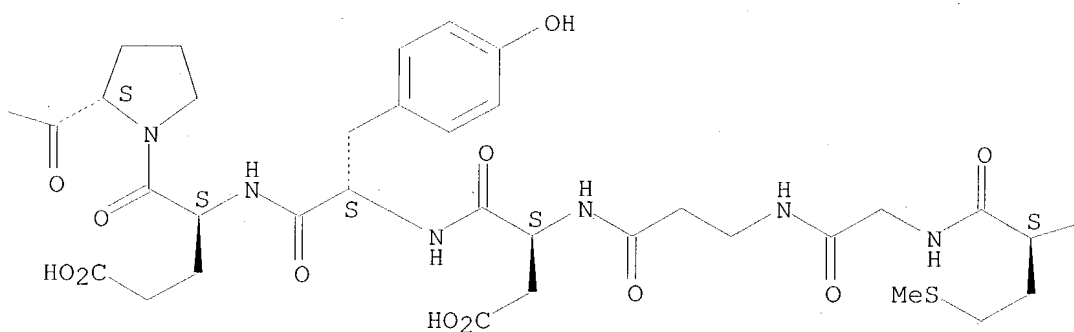


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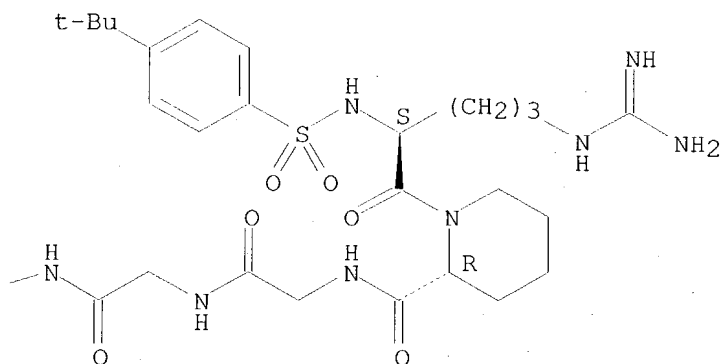


Absolute stereochemistry.

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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 28 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-17-3 REGISTRY

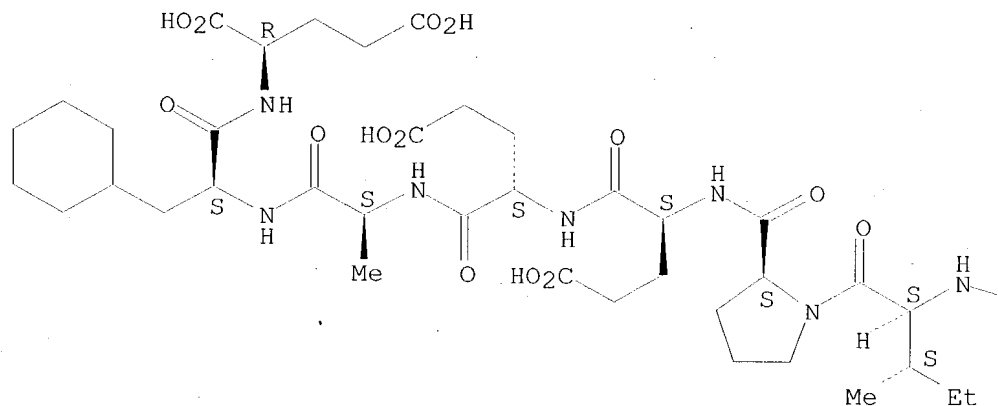
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-mercapto-D-valylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH
MF C97 H145 N21 O32 S2
SR CA
LC STN Files: CA, CAPLUS

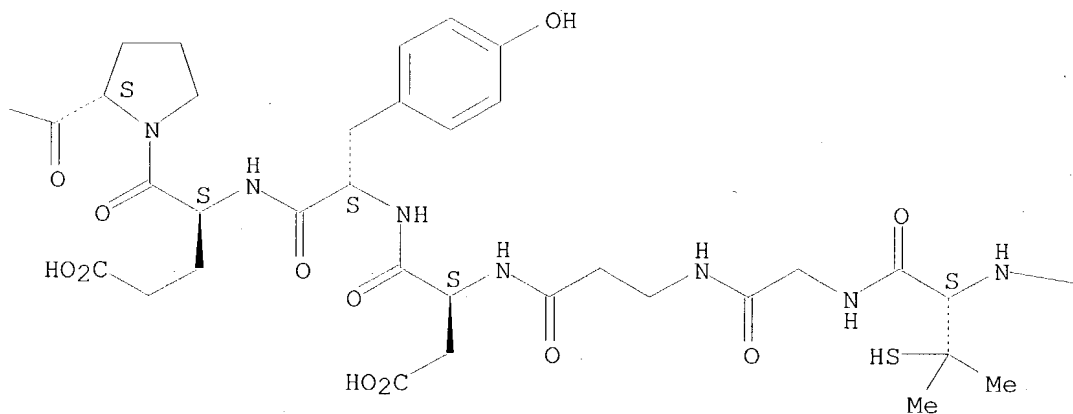
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

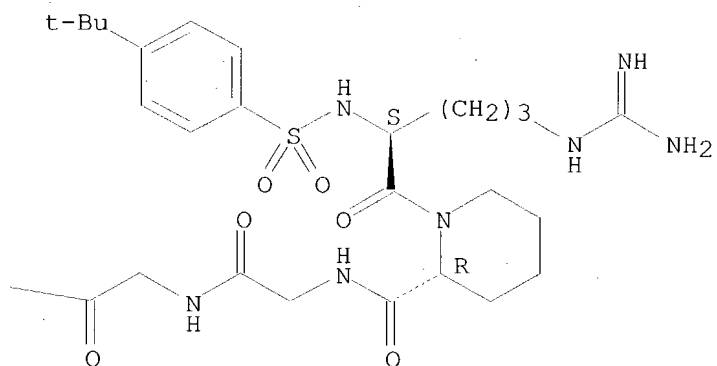
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 29 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-11-7 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-3-mercapto-L-valylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S2

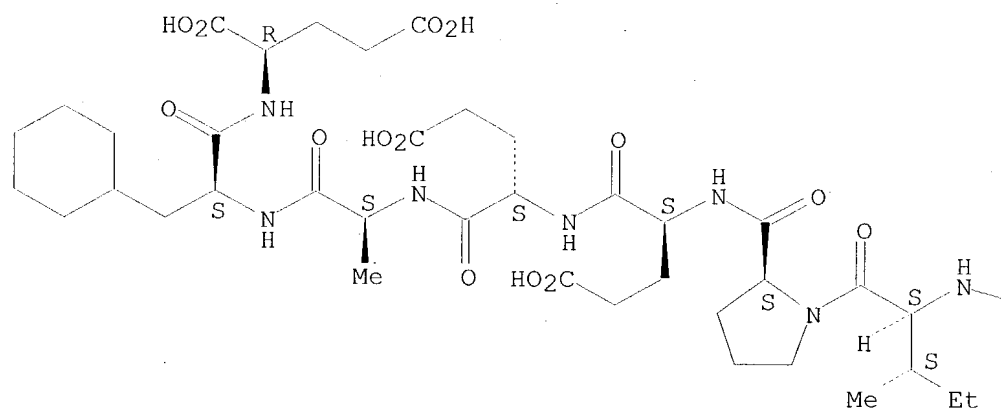
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LC STN Files: CA, CAPLUS

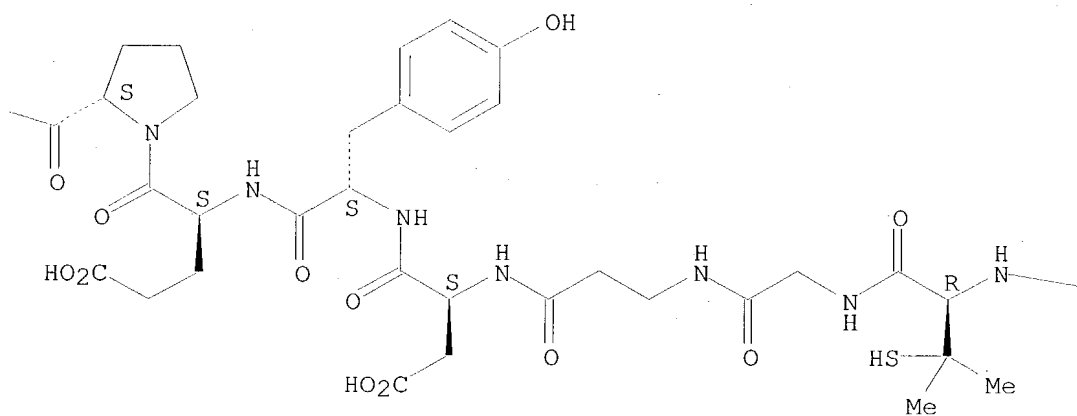
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

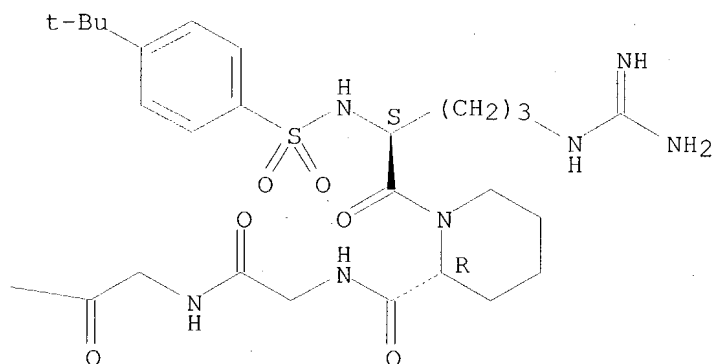
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 30 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223121-04-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-cysteinylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

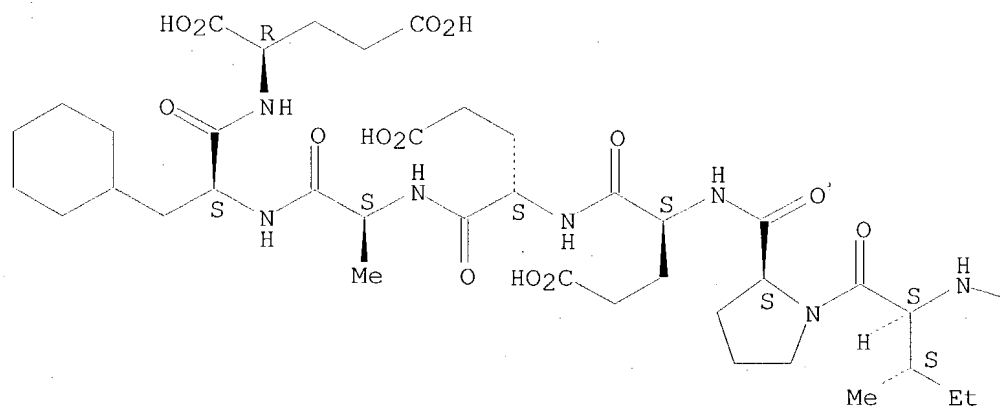
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SR CA

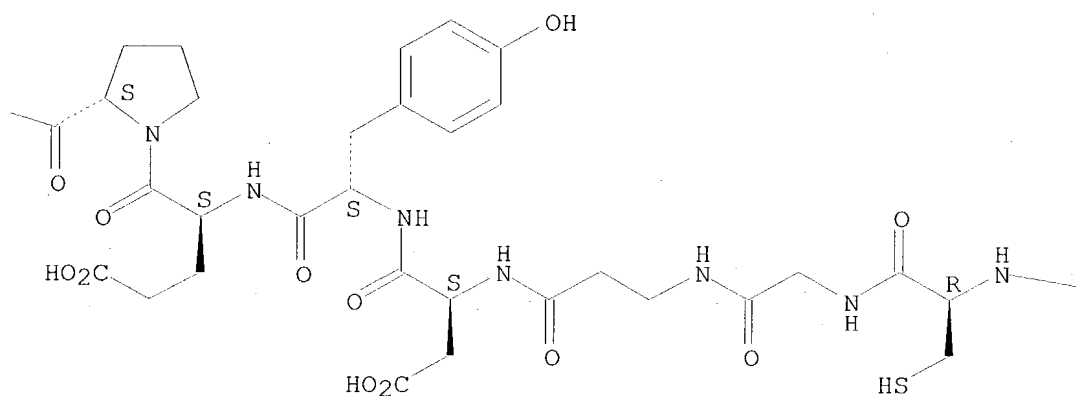
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

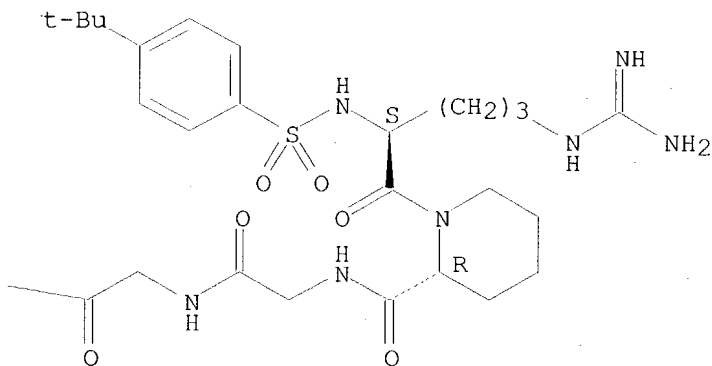
PAGE 1-A



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1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 130:297001

L10 ANSWER 31 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223120-97-6 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonylglycylglycyl-D-norleucylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-

prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

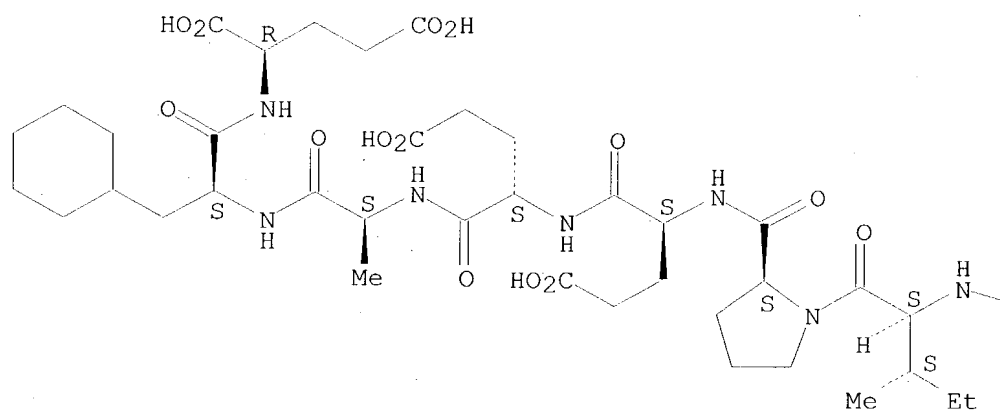
SR CA

LC STN Files: CA, CAPLUS

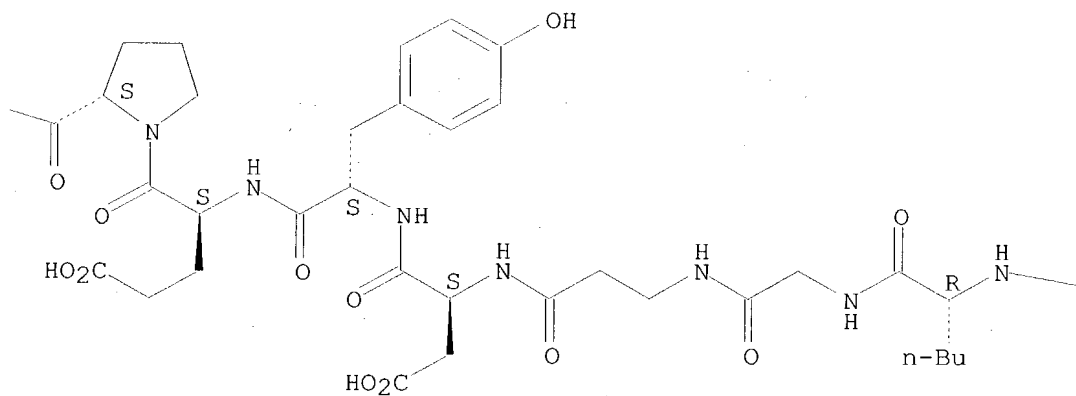
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

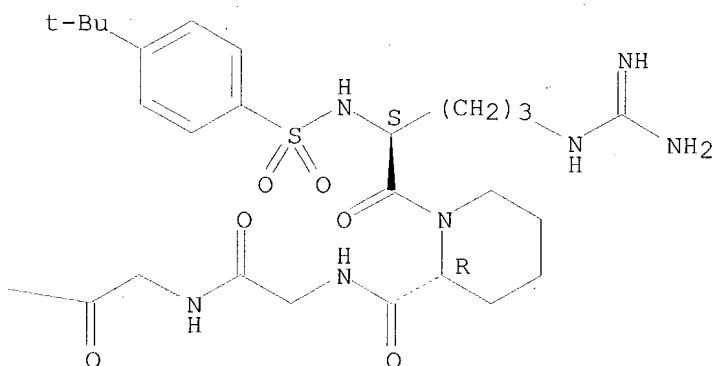
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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 32 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-90-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-norleucylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32.S

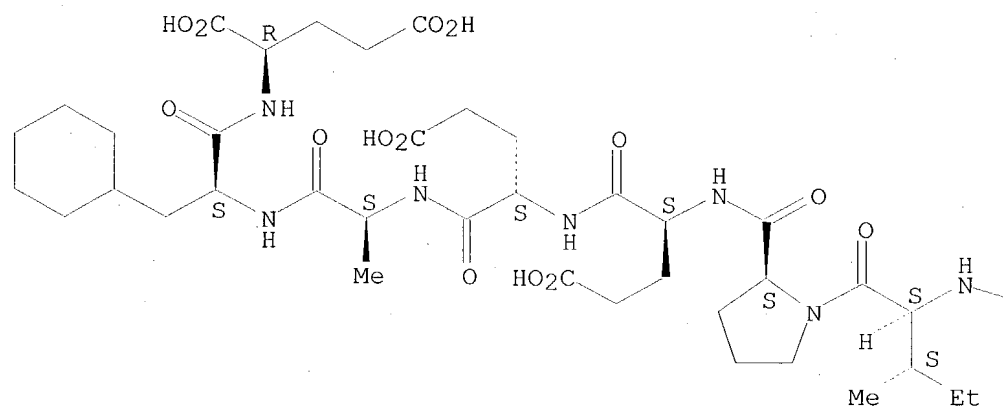
SR CA

LC STN Files: CA, CAPLUS

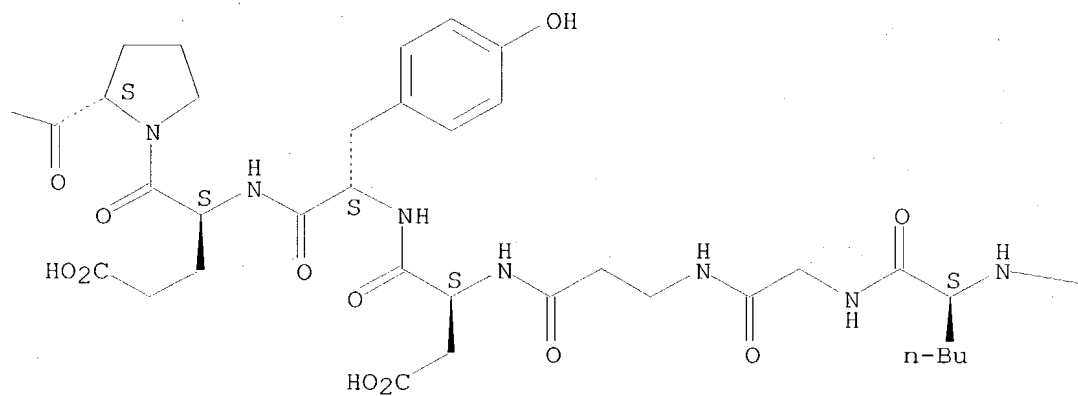
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

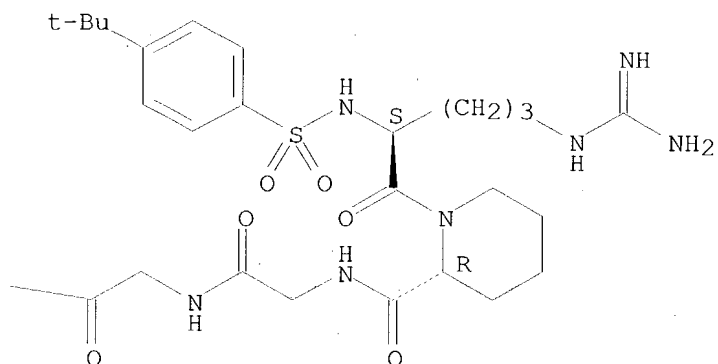
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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 33 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-84-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-norvalylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S

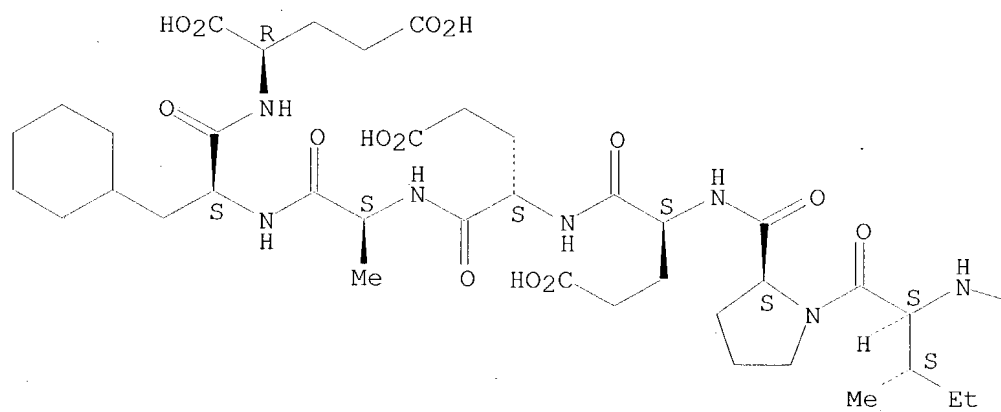
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LC STN Files: CA, CAPLUS

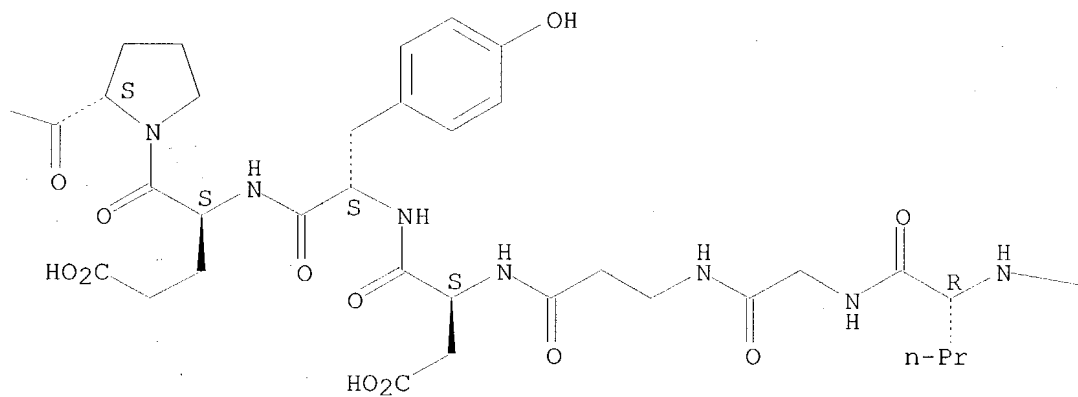
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

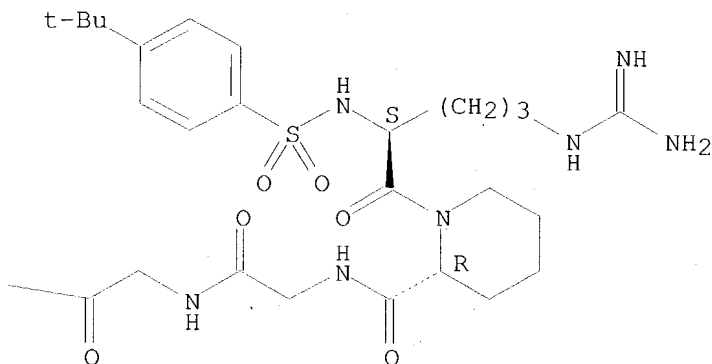
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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 34 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-74-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-L-norvalylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S

SR CA

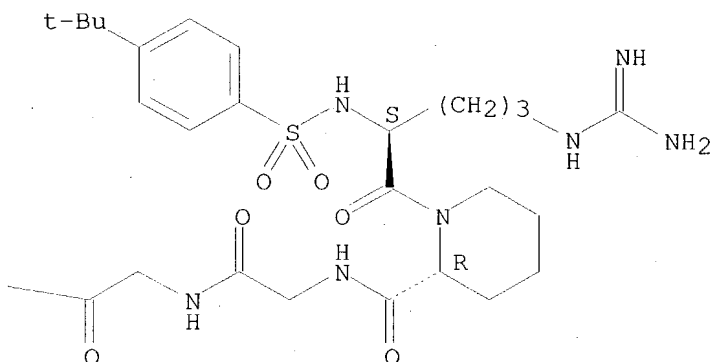
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

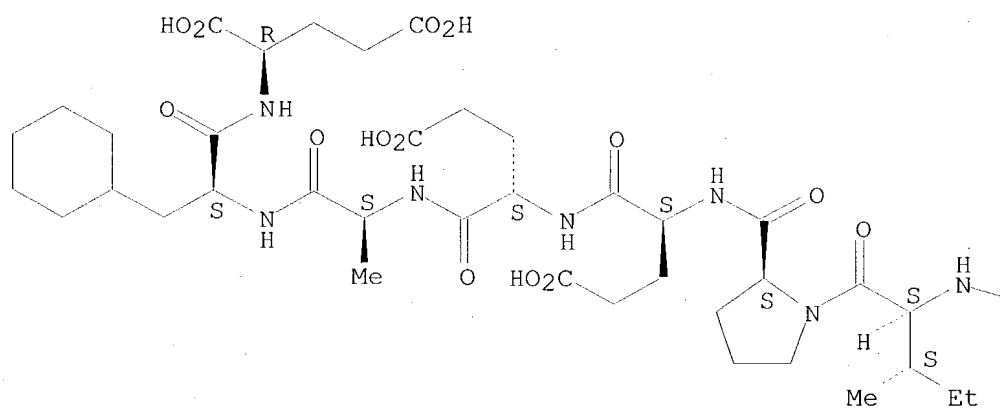
REFERENCE 2: 130:297001

L10 ANSWER 35 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 223120-68-1 REGISTRY
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FS PROTEIN SEQUENCE; STEREOSEARCH
MF C96 H143 N21 O32 S
SR CA
LC STN Files: CA, CAPLUS

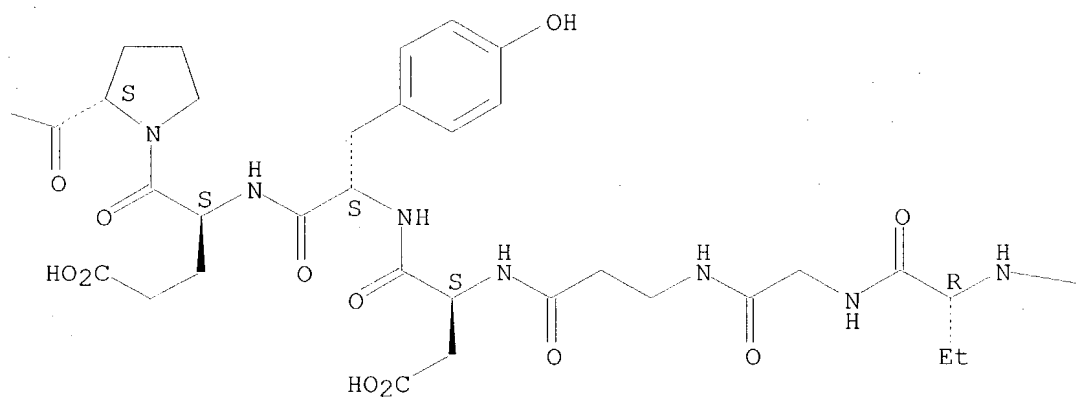
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

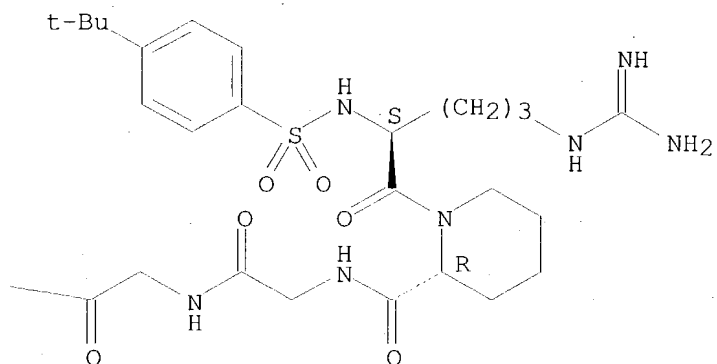
PAGE 1-A



PAGE 1-B



PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 36 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-63-6 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-(2S)-2-aminobutanoylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C96 H143 N21 O32 S

SR CA

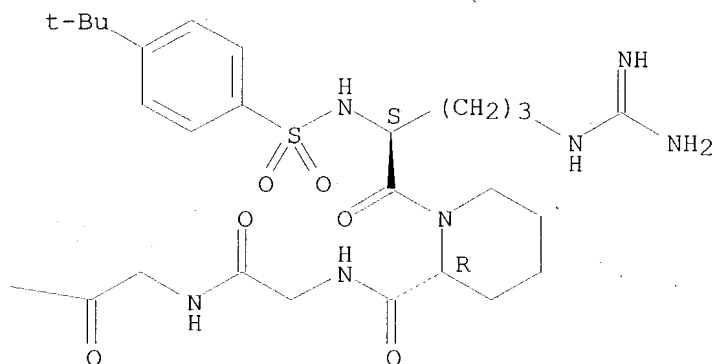
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 37 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-49-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-2-methylalanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

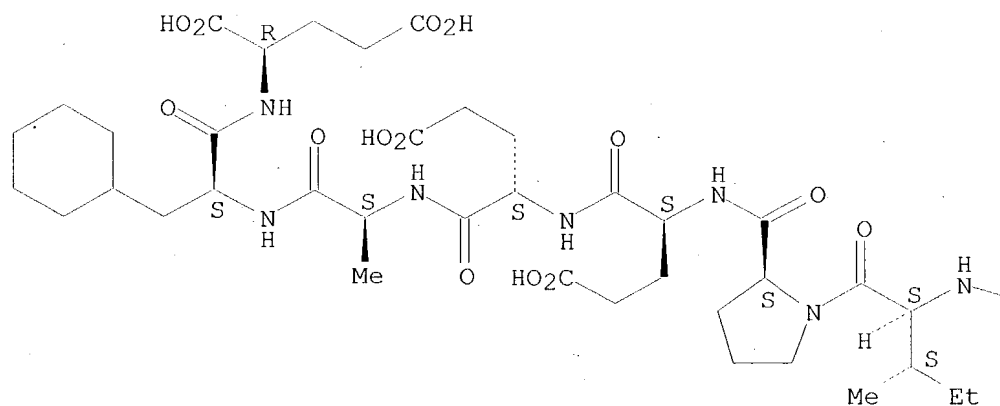
MF C96 H143 N21 O32 S

SR CA

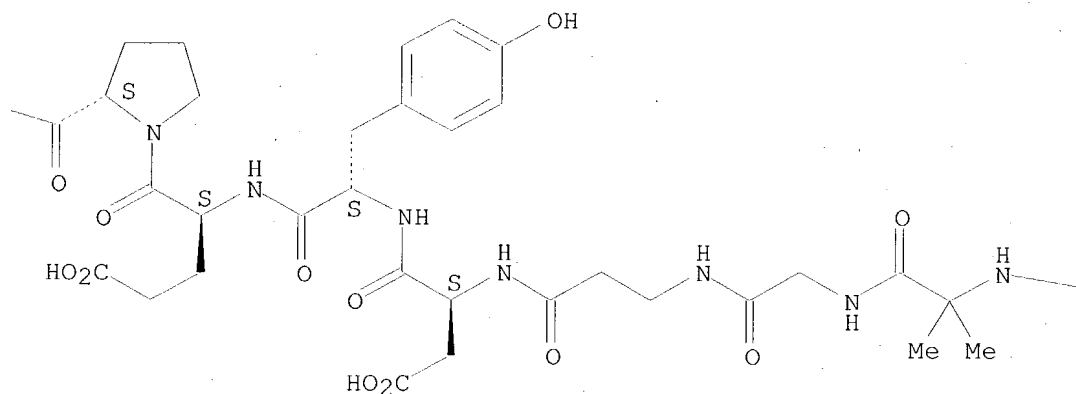
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

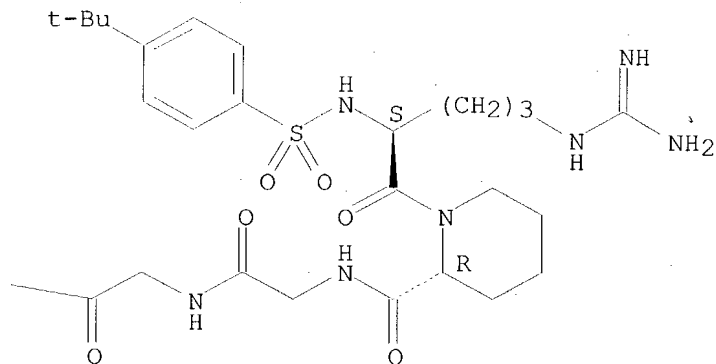
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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 38 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-26-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-

(2R)-2-piperidinecarbonyl-3-(2-thienyl)-D-alanylglycylglycylglycyl- β -
 alanyl-L- α -aspartyl-L-tyrosyl-L- α -glutamyl-L-prolyl-L-
 isoleucyl-L-prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-
 cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C99 H143 N21 O32 S2

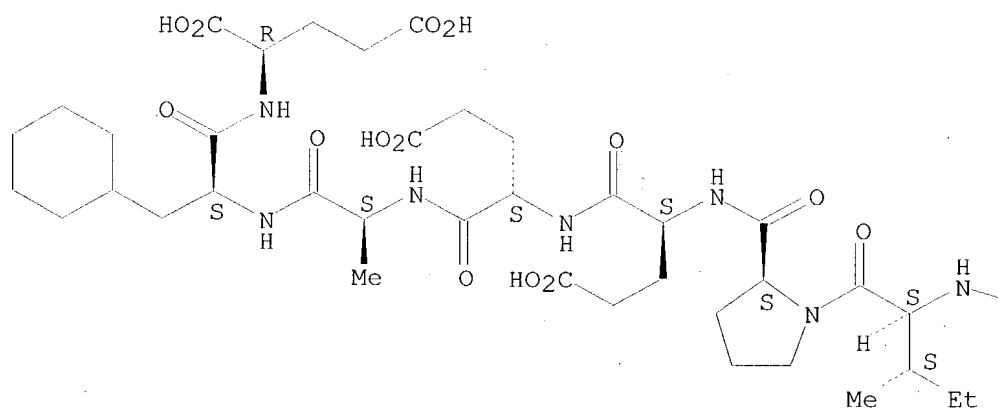
SR CA

LC STN Files: CA, CAPLUS

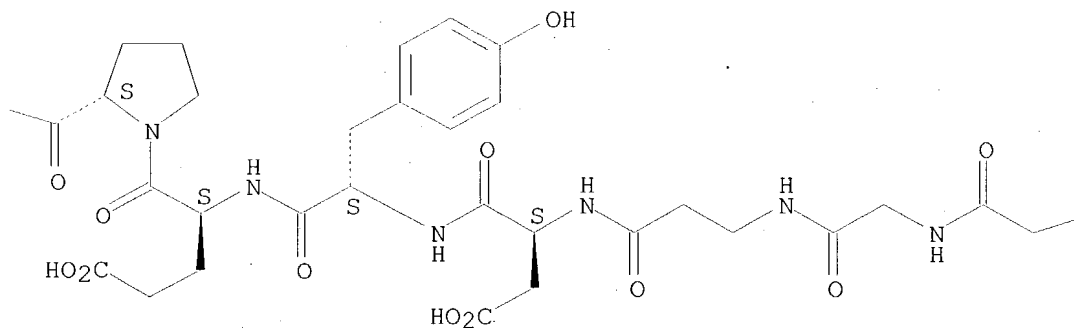
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

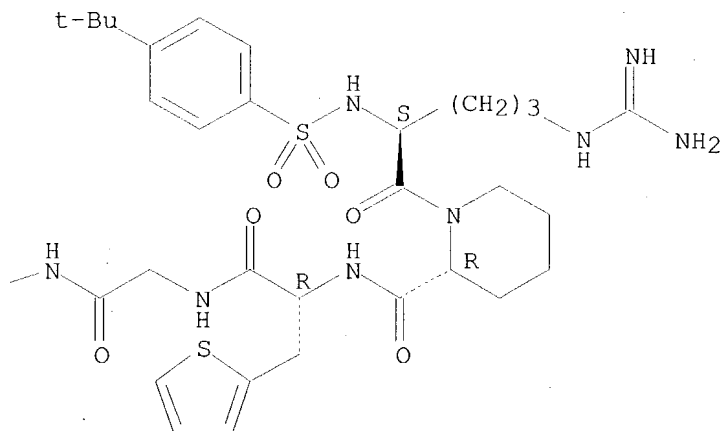
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 39 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-12-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-3-(2-thienyl)-L-alanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C99 H143 N21 O32 S2

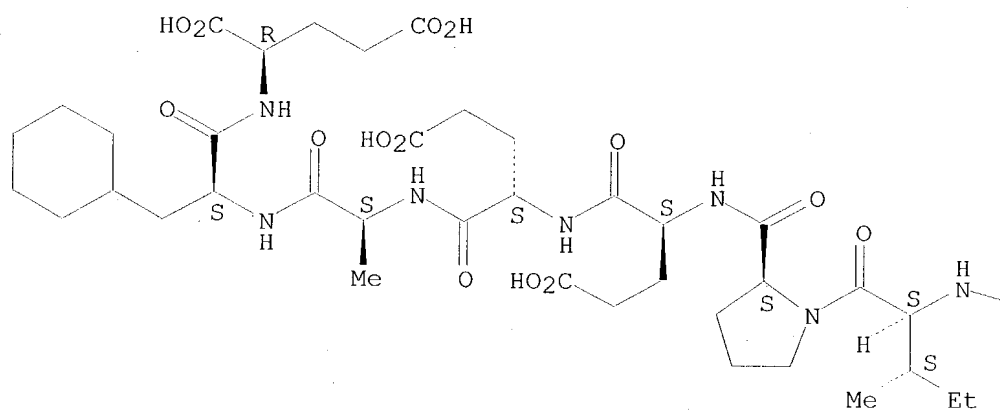
SR CA

LC STN Files: CA, CAPLUS

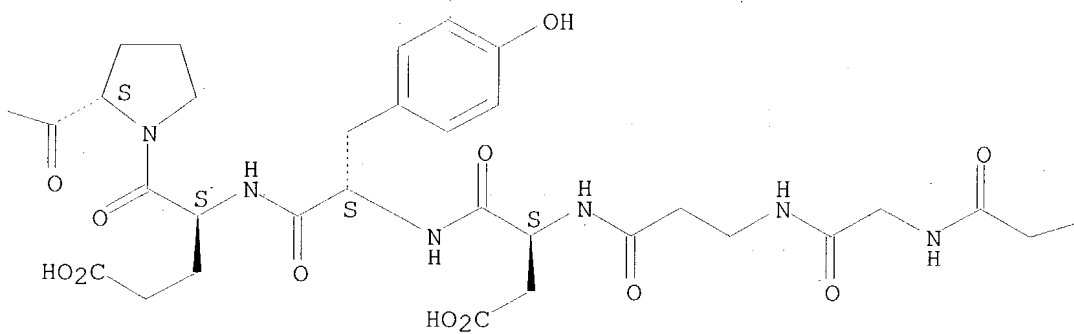
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

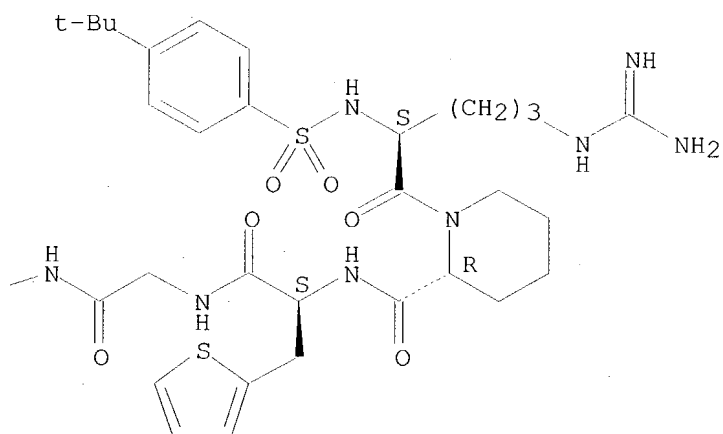
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 40 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223120-02-3 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenylsulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-tryptophylglycylglycylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C103 H146 N22 O32 S

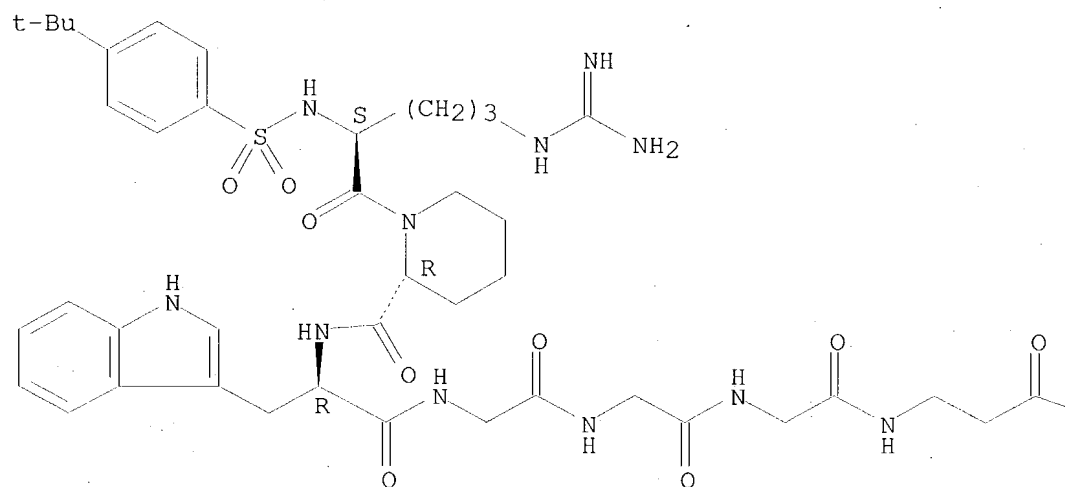
SR CA

LC STN Files: CA, CAPLUS

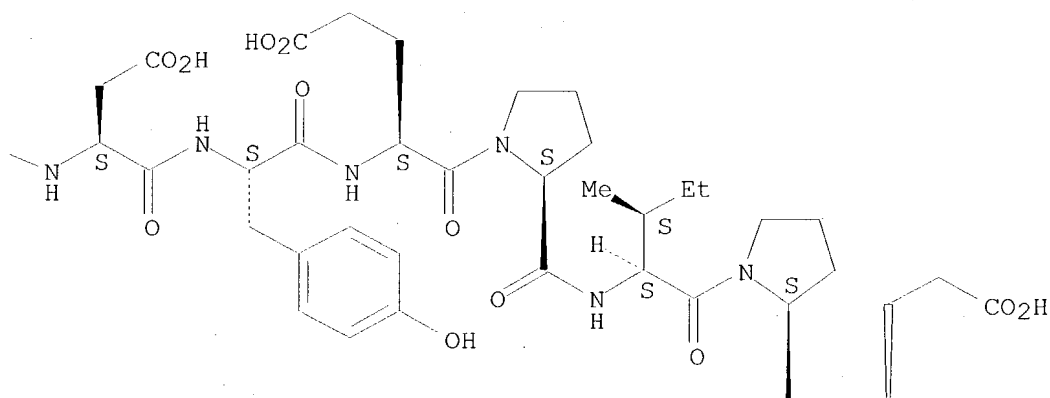
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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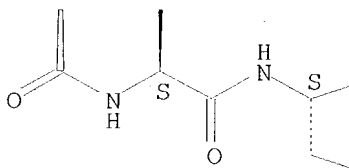
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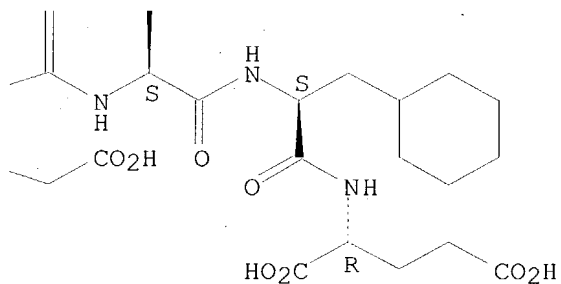
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-tryptophylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C103 H146 N22 O32 S

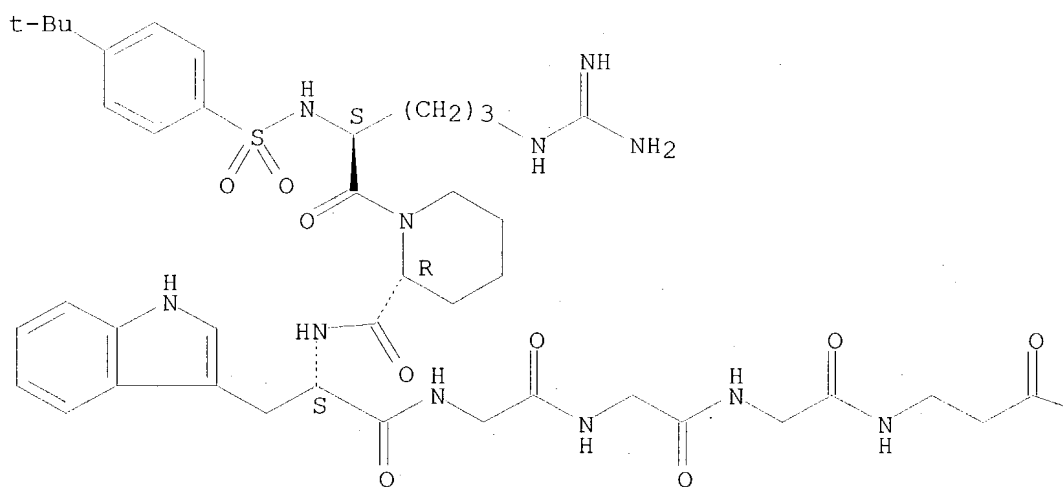
SR CA

LC STN Files: CA, CAPLUS

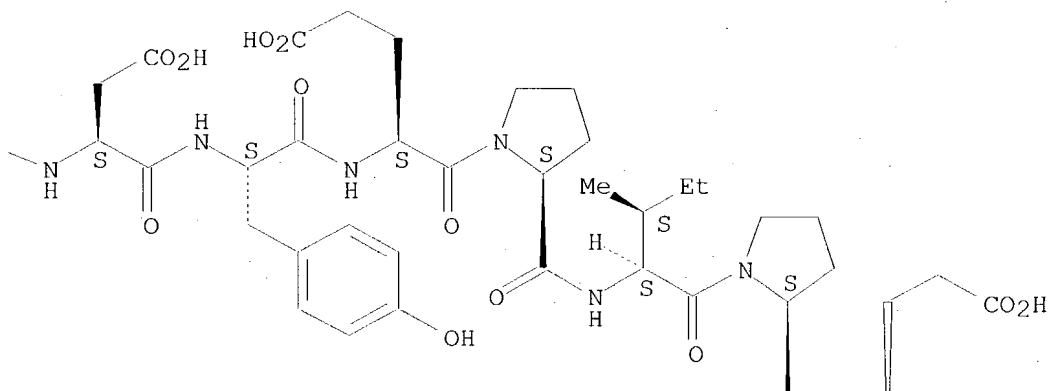
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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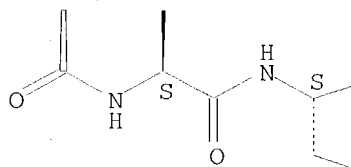
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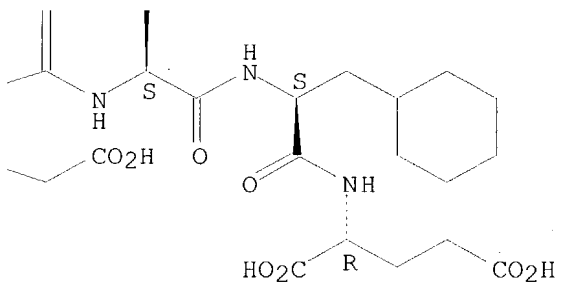
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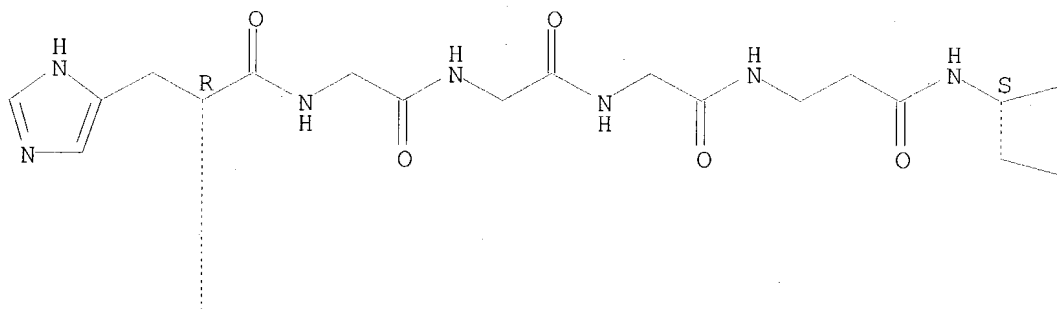
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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

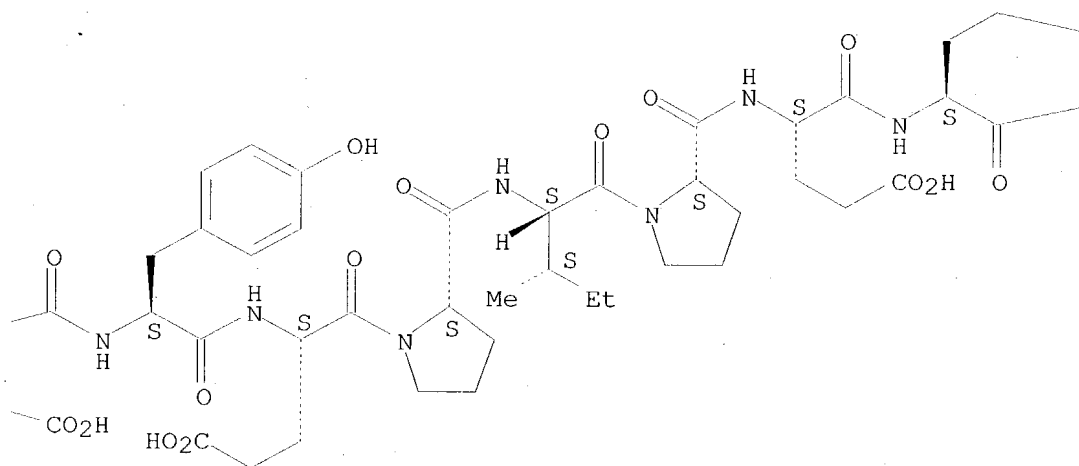
REFERENCE 2: 130:297001

Absolute stereochemistry.

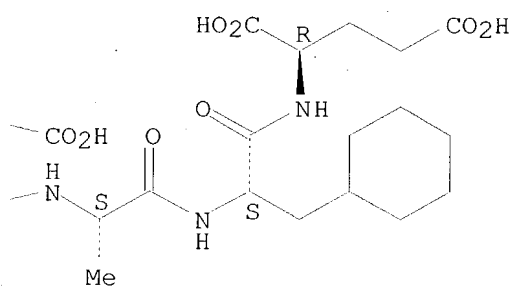
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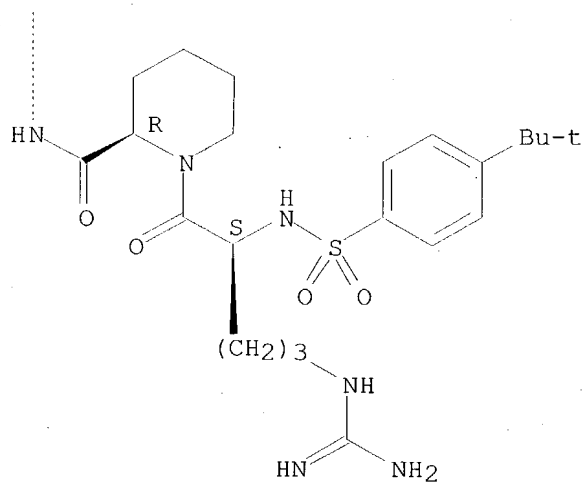
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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 43 OF 82 (REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-78-6 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-histidylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H143 N23 O32 S

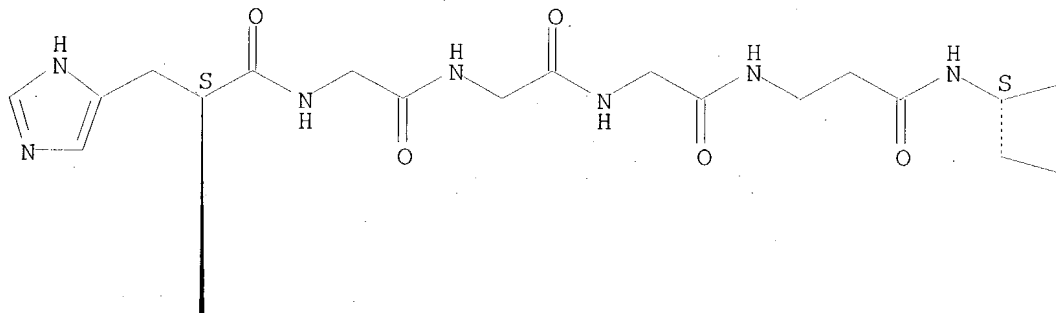
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LC STN Files: CA, CAPLUS

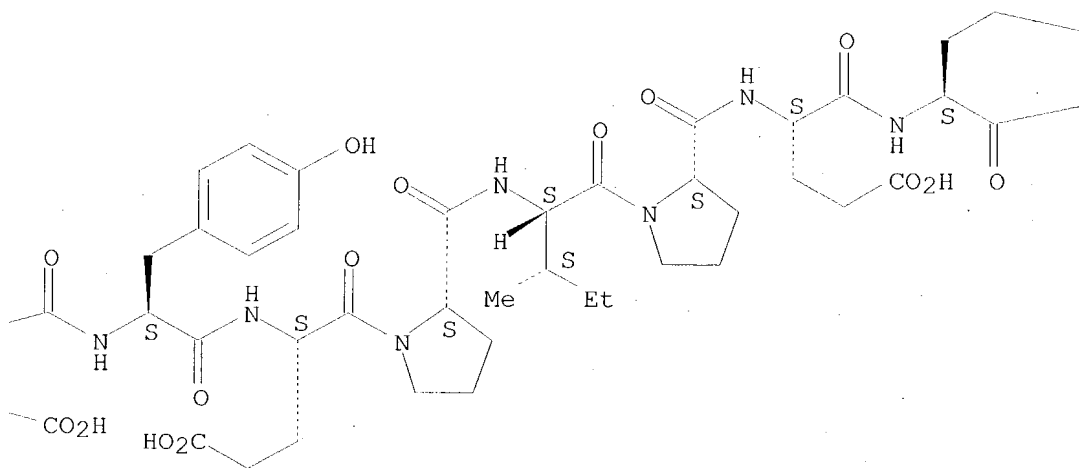
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

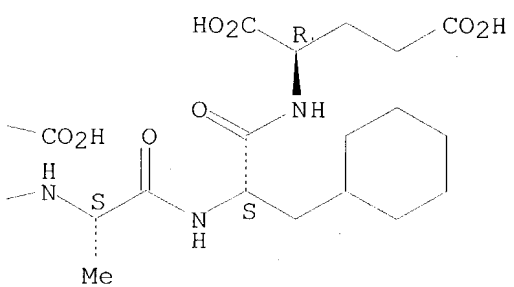
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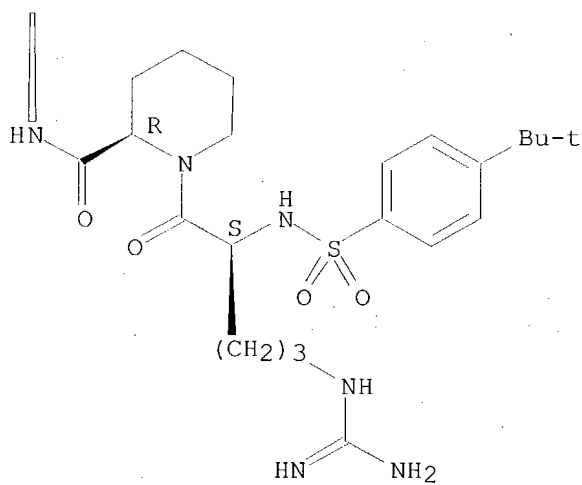
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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 44 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-72-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(αR)-α-aminobenzenebutanoylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C102 H147 N21 O32 S

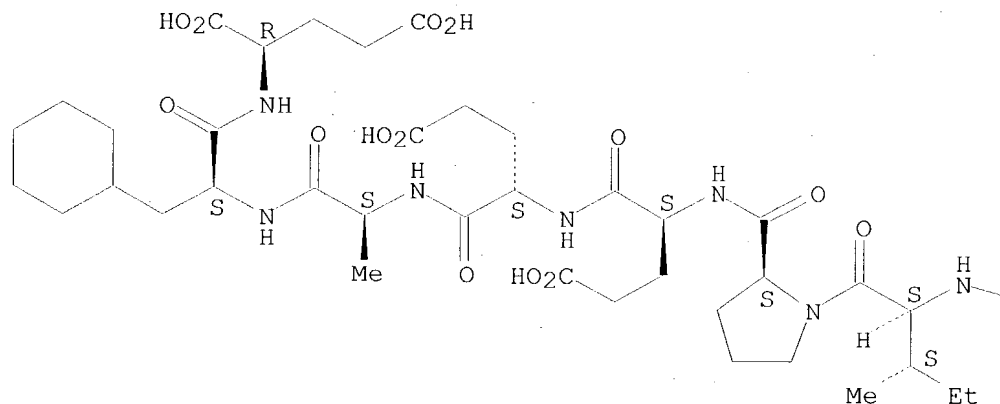
SR CA

LC STN Files: CA, CAPLUS

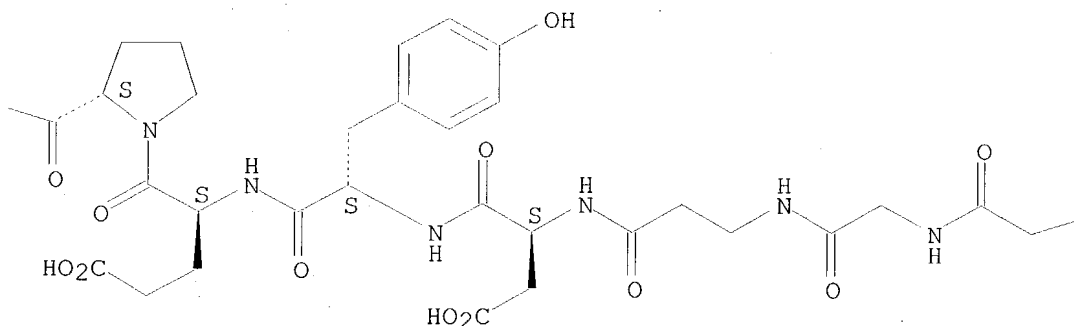
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

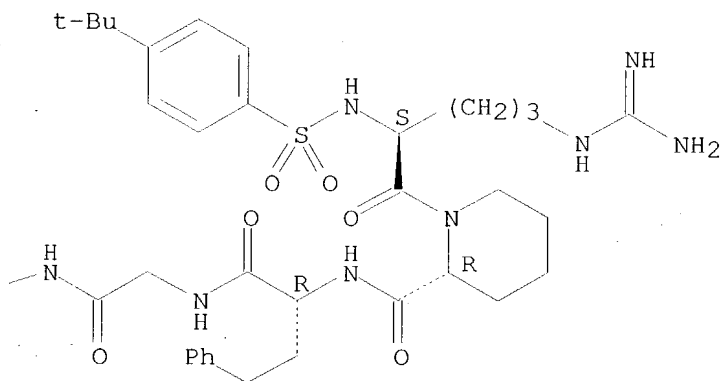
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 45 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-62-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(αS)-α-aminobenzenebutanoylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

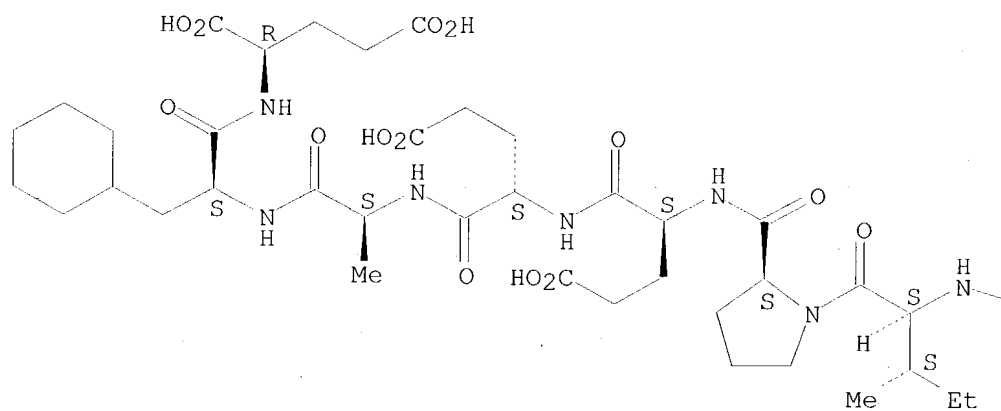
MF C102 H147 N21 O32 S

SR CA
LC STN Files: CA, CAPLUS

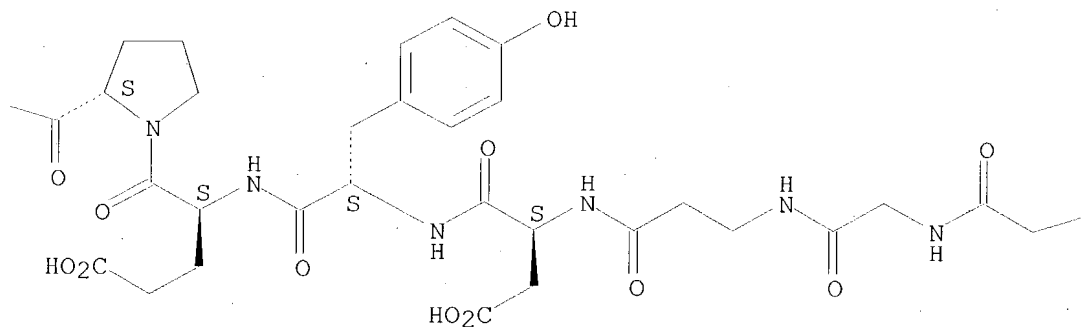
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

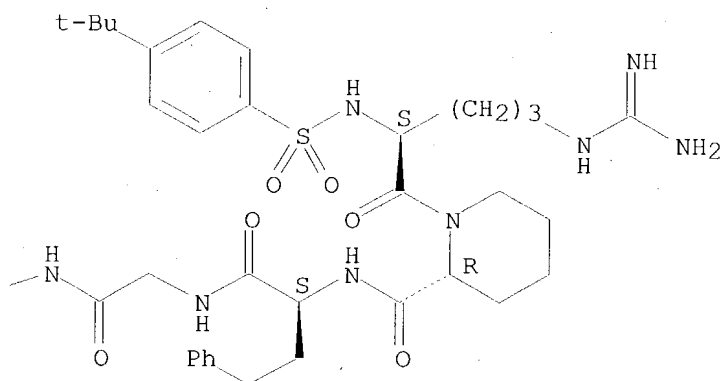
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 46 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-53-7 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-phenylalanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C101 H145 N21 O32 S

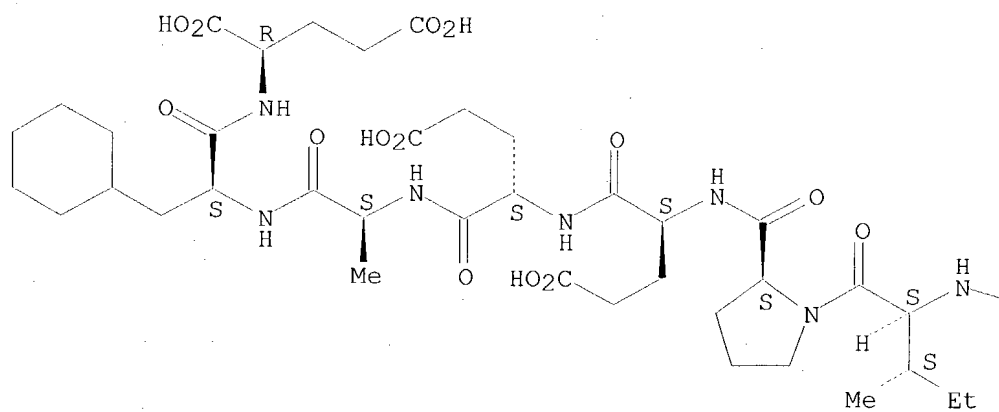
SR CA

LC STN Files: CA, CAPLUS

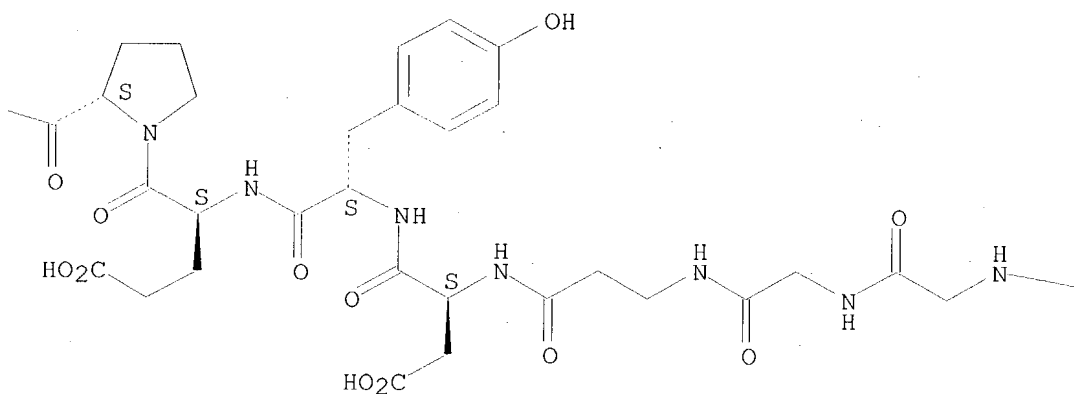
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

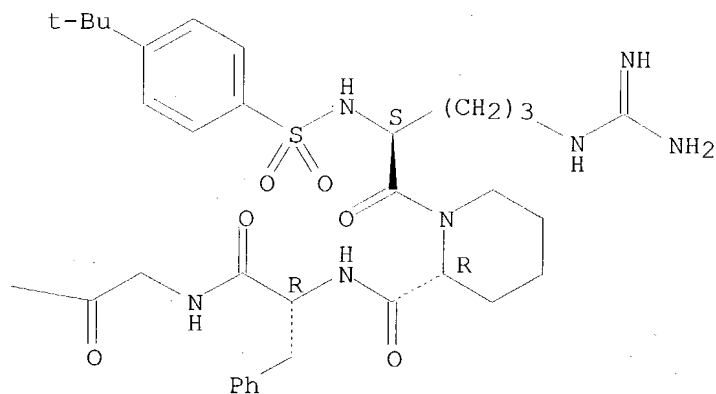
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-phenylalanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C101 H145 N21 O32 S

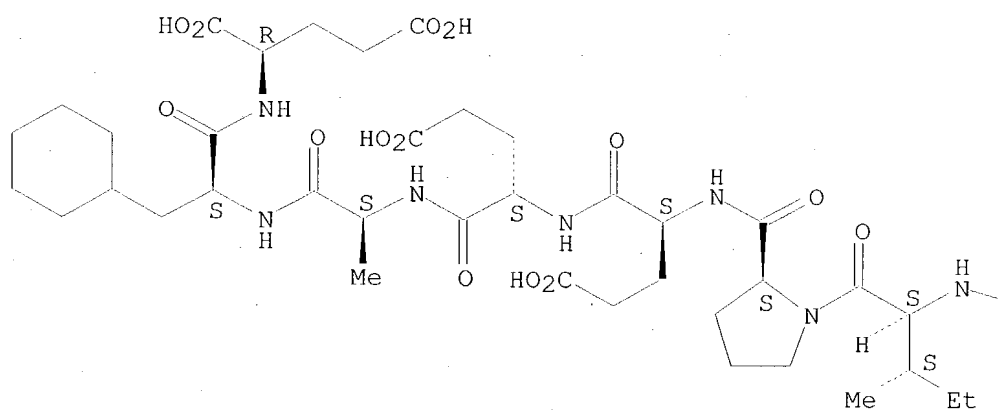
SR CA

LC STN Files: CA, CAPLUS

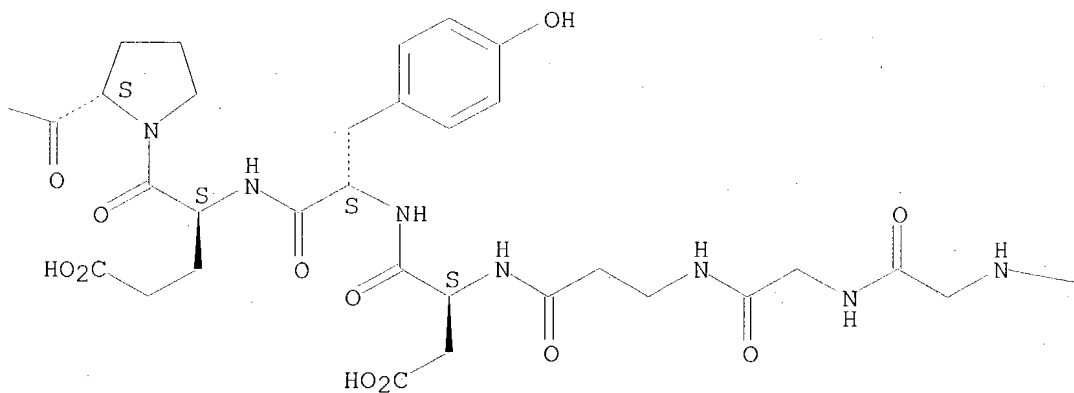
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

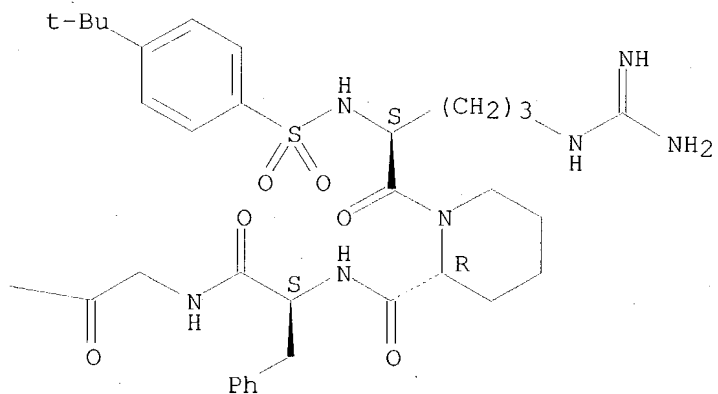
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2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 48 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-36-6 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(2R)-2-phenylglycylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C100 H143 N21 O32 S

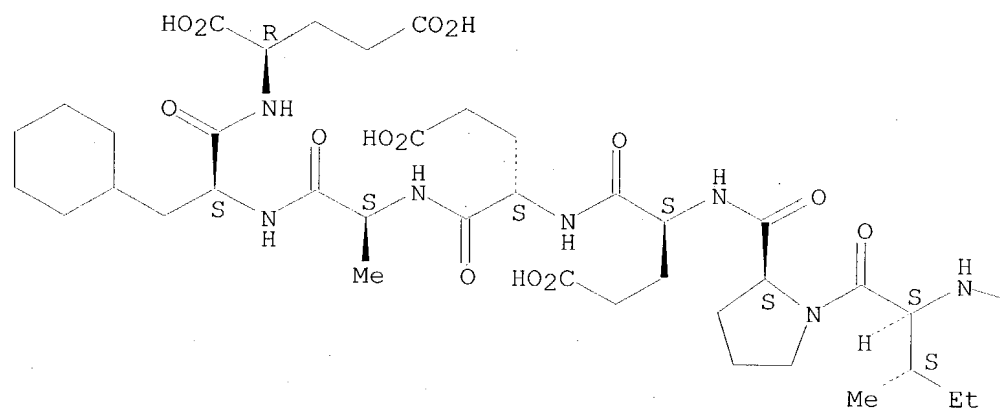
SR CA

LC STN Files: CA, CAPLUS

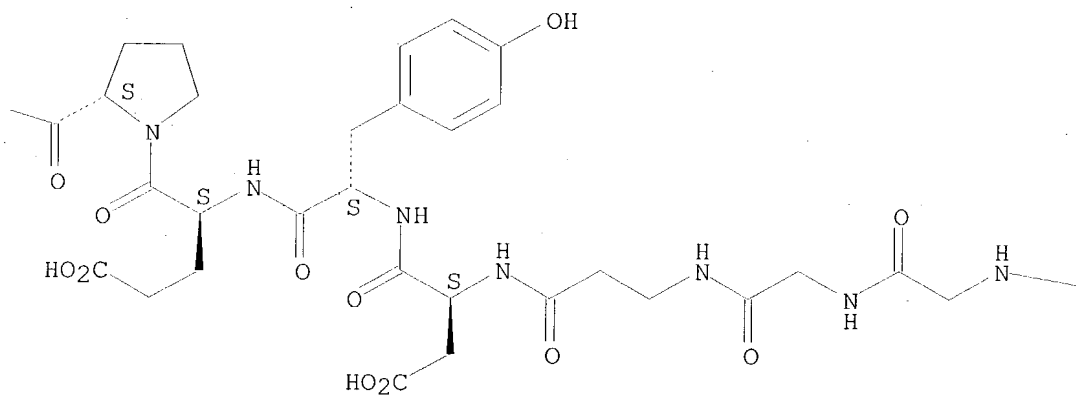
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

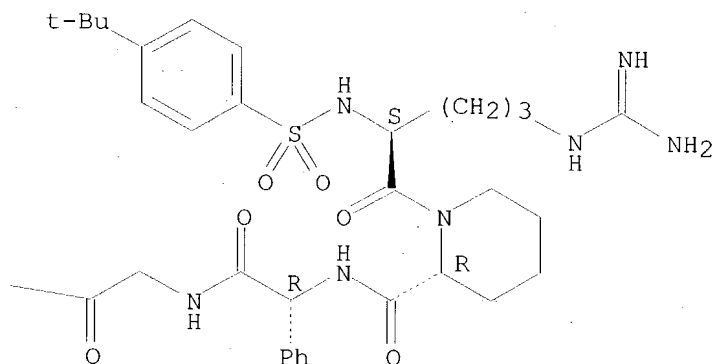
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 49 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-28-6 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(2S)-2-phenylglycylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

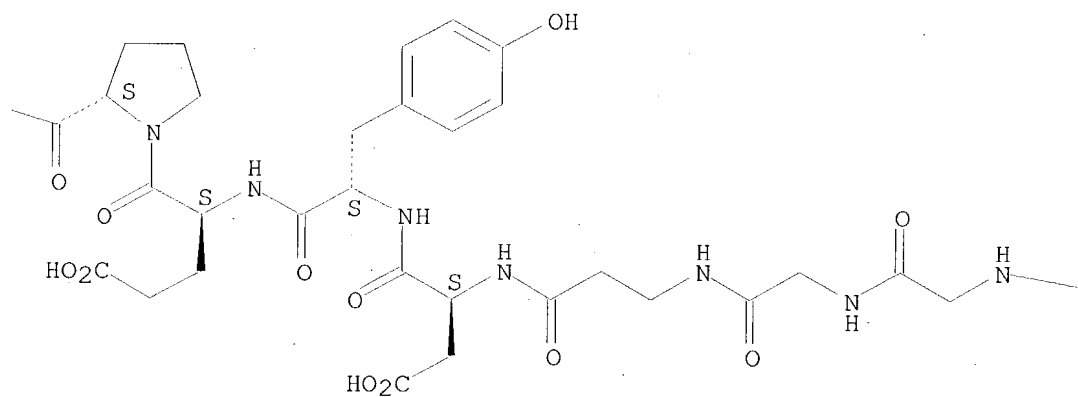
MF C100 H143 N21 O32 S

SR CA

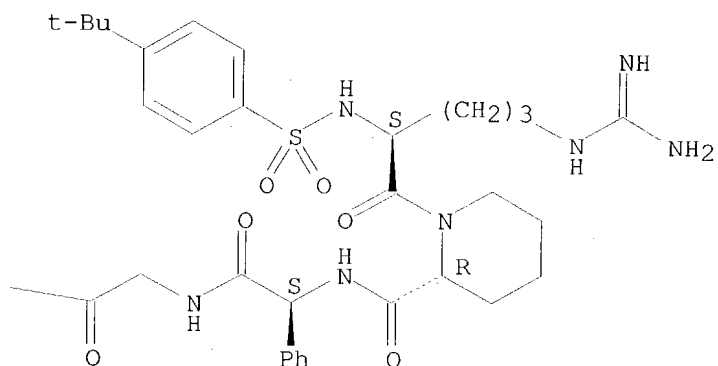
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 50 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-22-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-3-cyclohexyl-D-alanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

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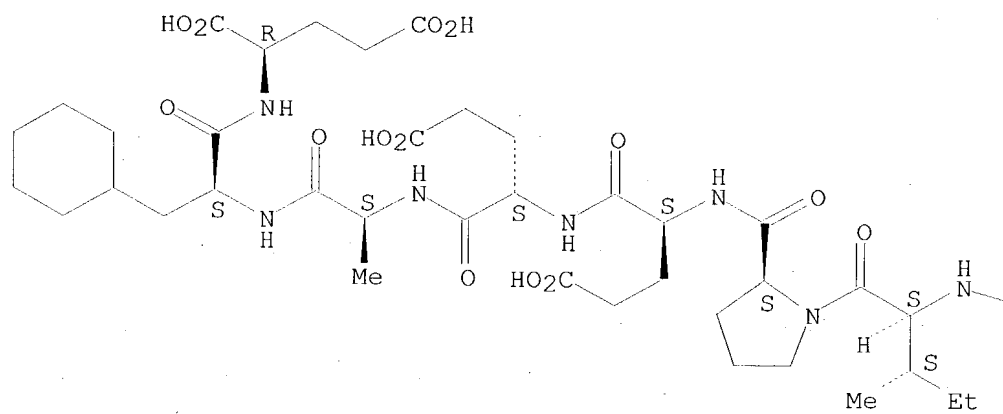
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LC STN Files: CA, CAPLUS

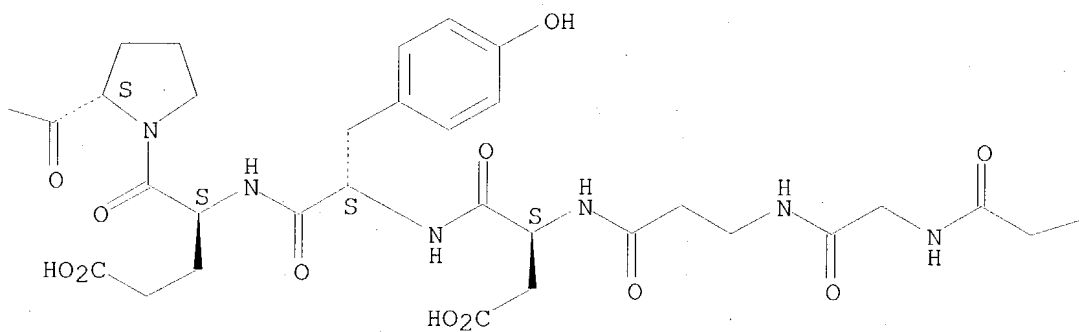
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

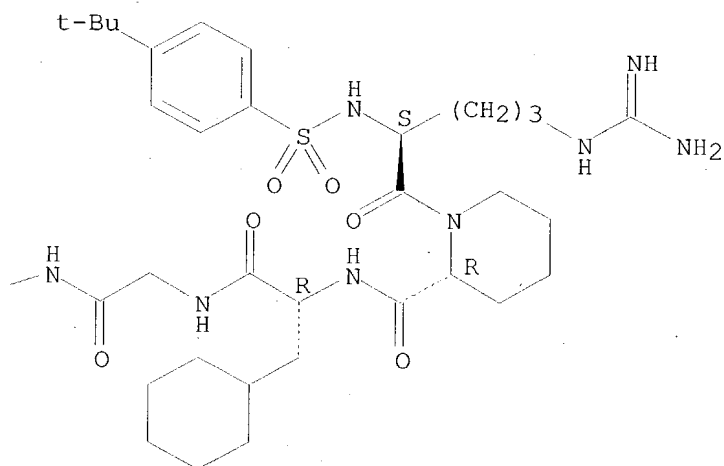
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 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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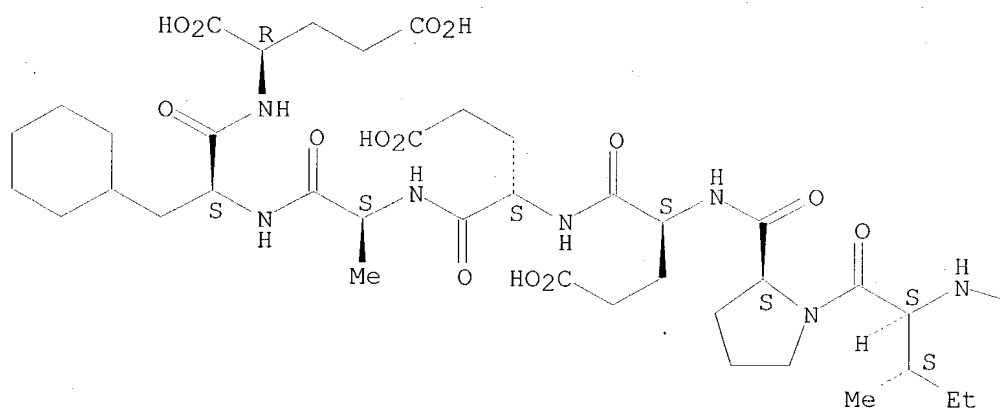
REFERENCE 2: 130:297001

L10 ANSWER 51 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223119-13-9 REGISTRY
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 (2R)-2-piperidinecarbonyl-3-cyclohexyl-L-alanylglycylglycylglycyl-β-
 alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-
 isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-
 cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C101 H151 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

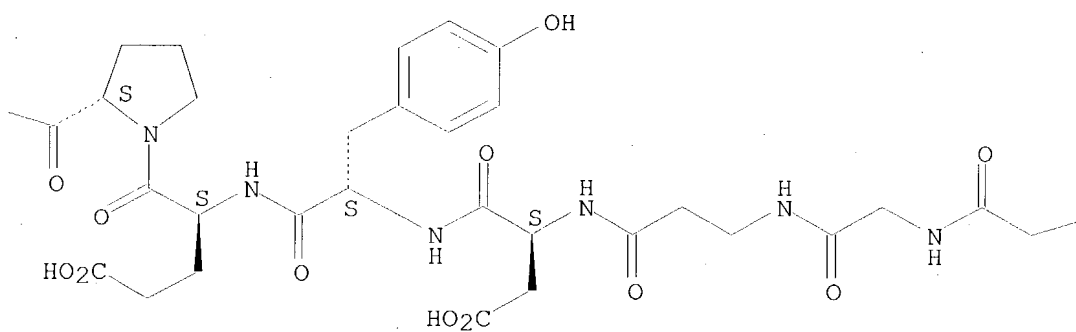
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

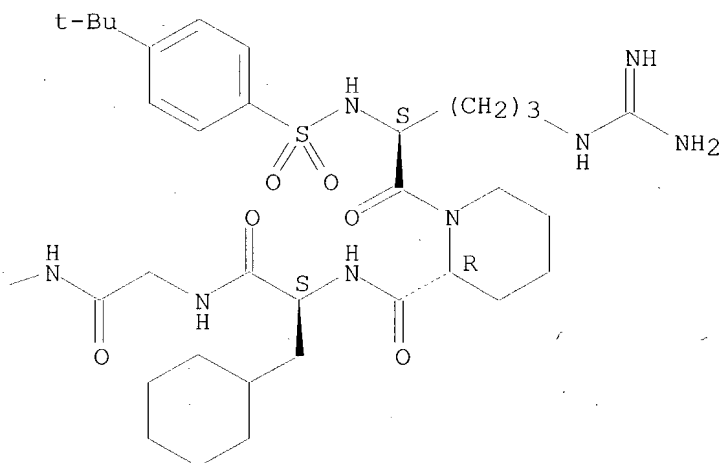
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 52 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223119-07-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-2-cyclohexylglycylglycylglycylglycyl-β-
 alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-
 isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-
 cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C100 H149 N21 O32 S

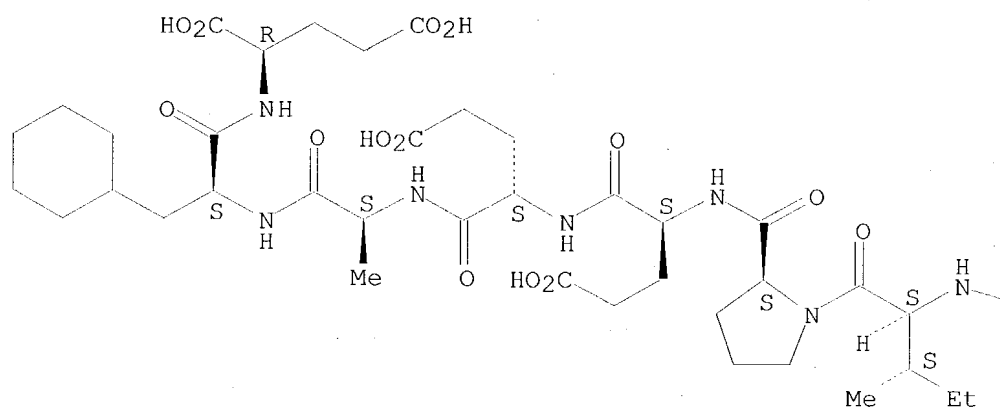
SR CA

LC STN Files: CA, CAPLUS

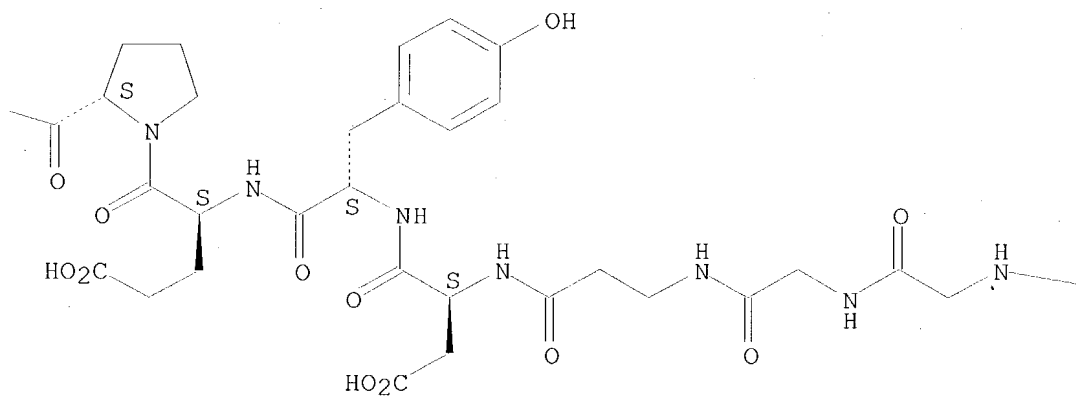
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

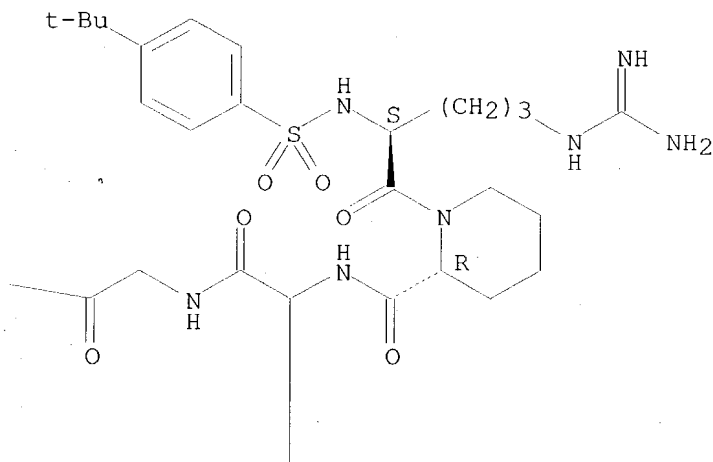
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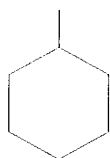
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1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

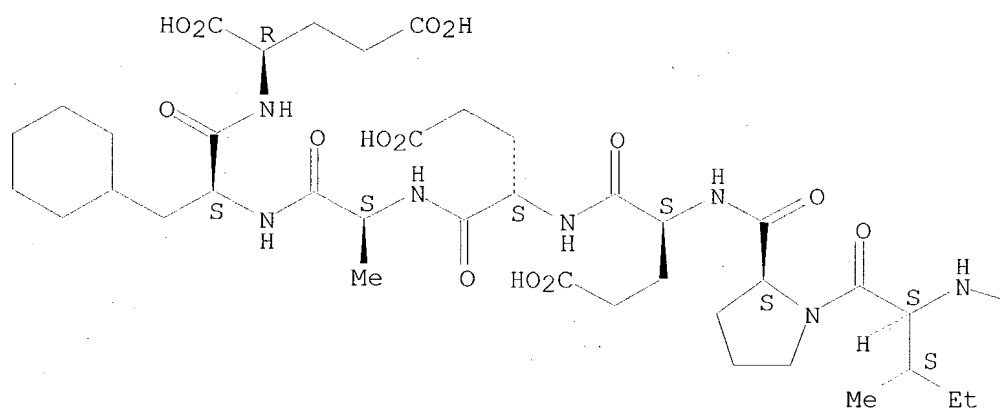
REFERENCE 1: 130:297001

L10 ANSWER 53 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223119-00-4 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-D-leucylglycylglycylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C98 H147 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

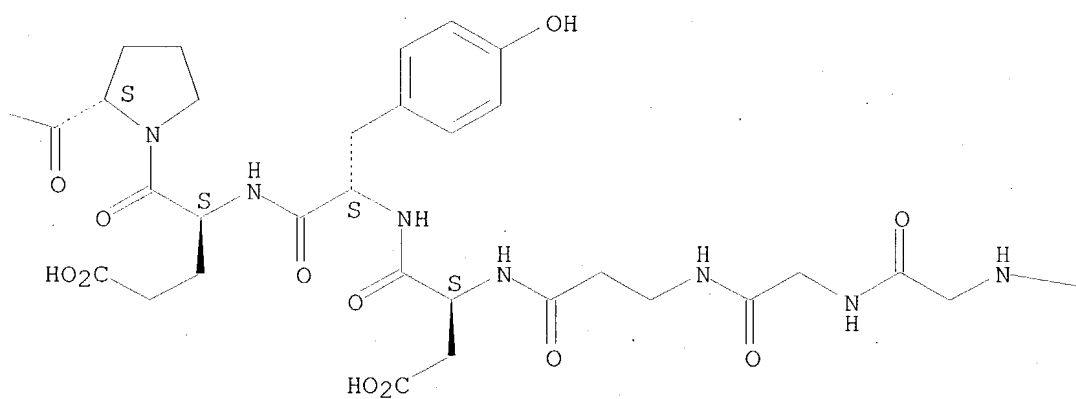
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

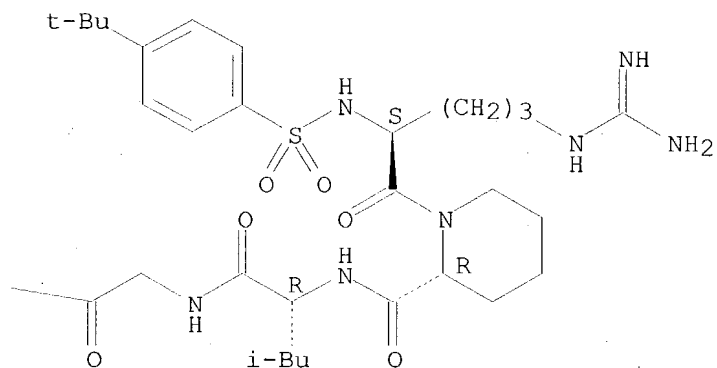
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 54 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-88-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-leucylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

SR CA

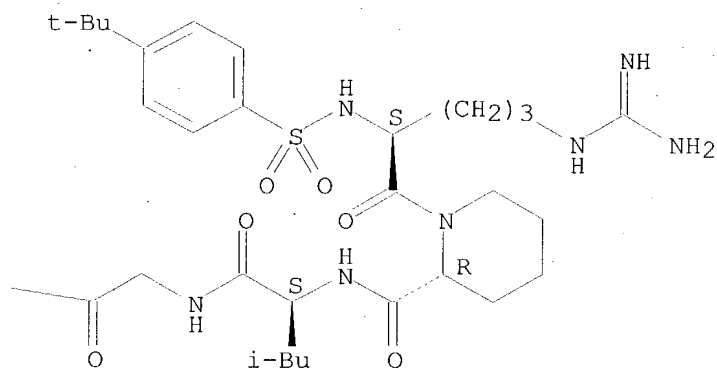
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 55 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-82-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-isoleucylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

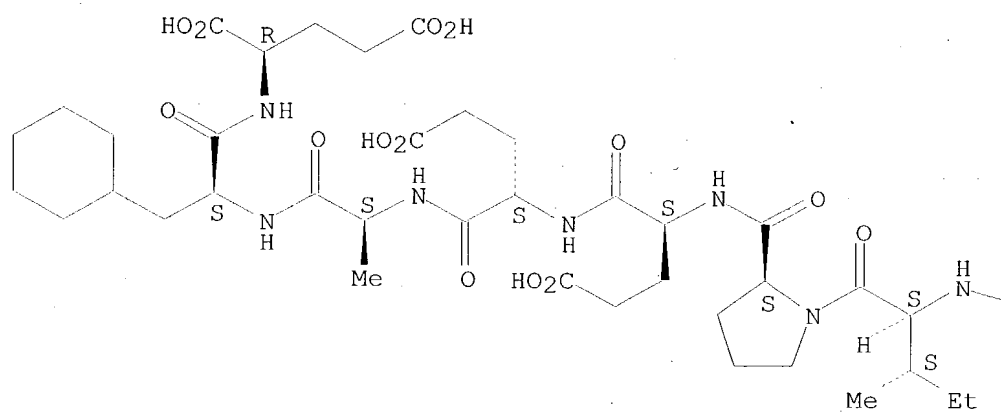
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LC STN Files: CA, CAPLUS

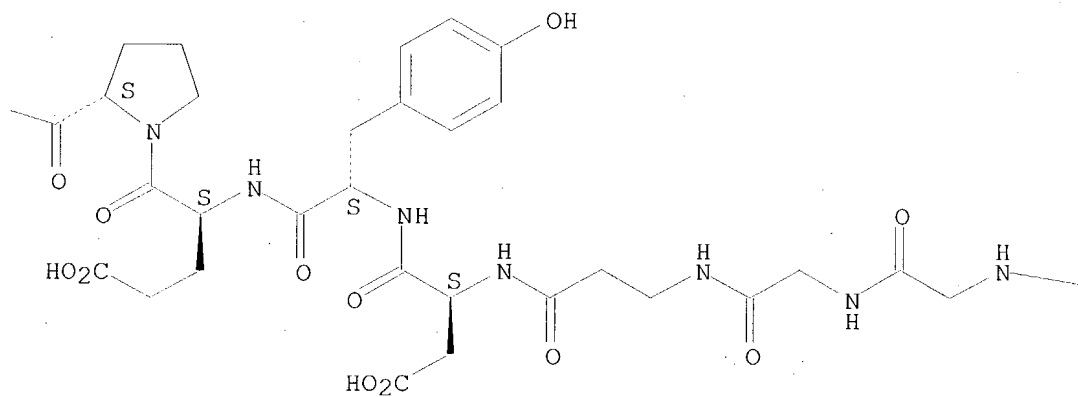
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

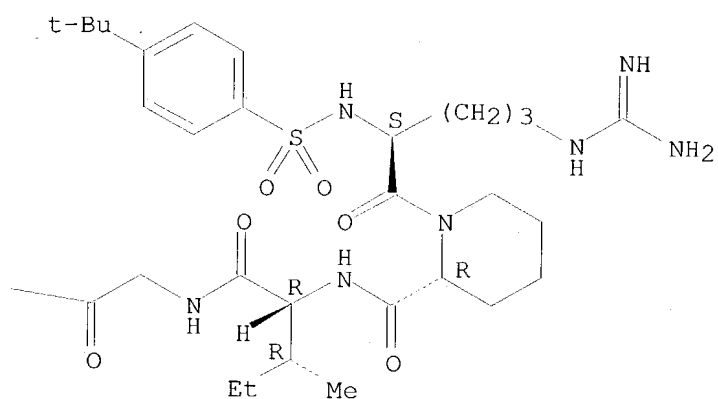
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PAGE 1-C



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REFERENCE 2: 130:297001

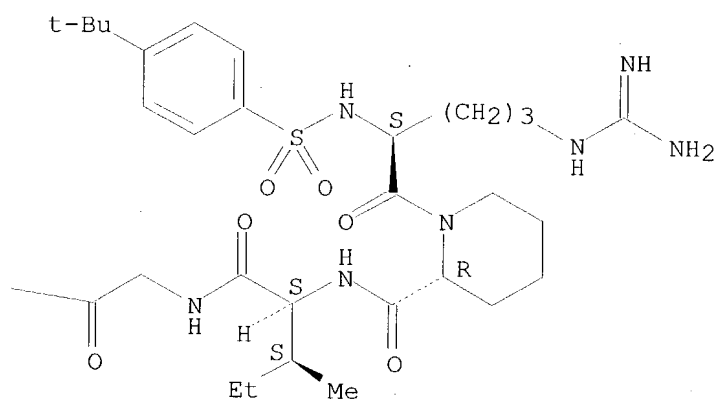
L10 ANSWER 56 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 223118-76-1 REGISTRY
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
(2R)-2-piperidinecarbonyl-L-isoleucylglycylglycylglycyl-beta-alanyl-L-
alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-
prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-
alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C98 H147 N21 O32 S
SR CA
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 57 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-70-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-3-methyl-D-valylglycylglycylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

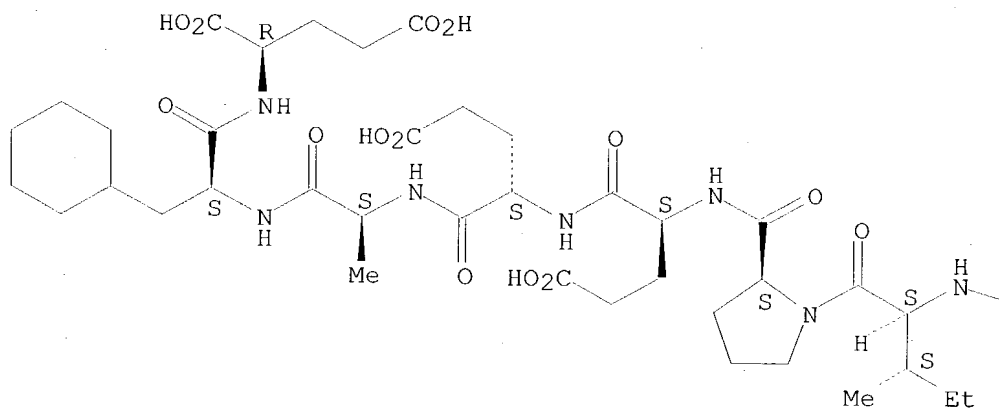
SR CA

LC STN Files: CA, CAPLUS

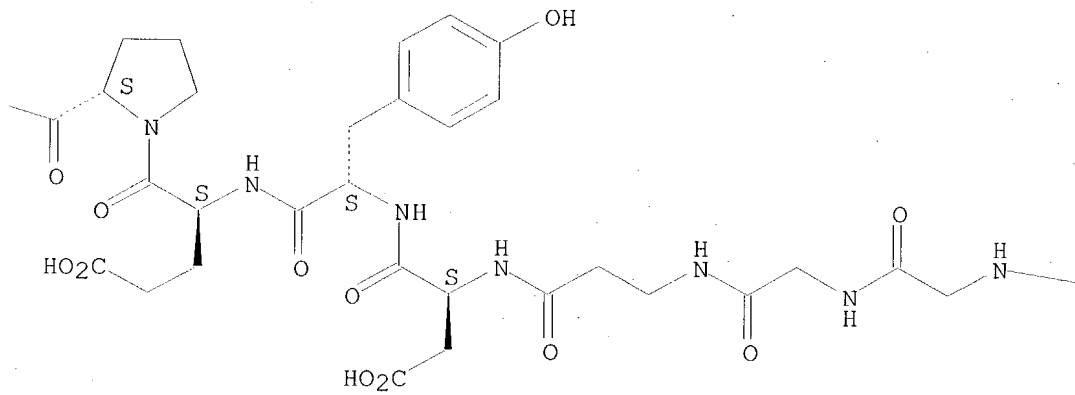
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

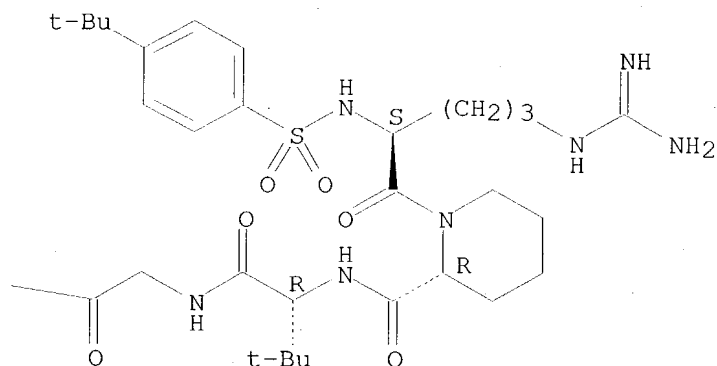
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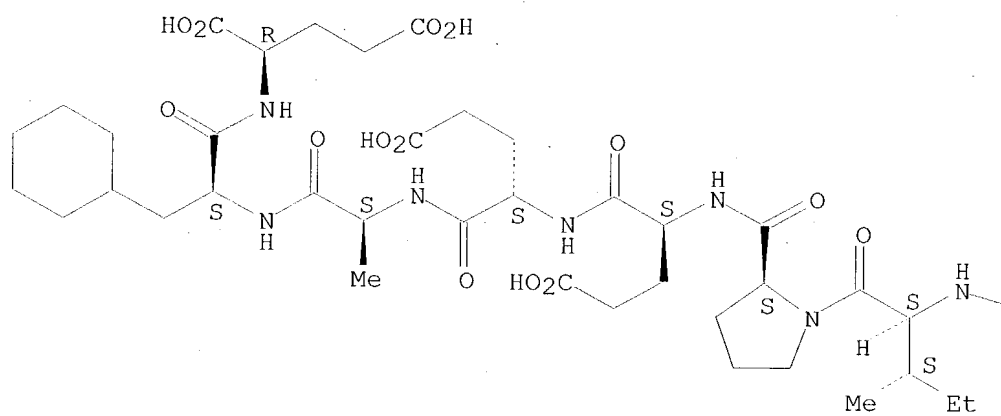
REFERENCE 2: 130:297001

L10 ANSWER 58 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223118-64-7 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-3-methyl-L-valylglycylglycylglycyl-β-alanyl-
 L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C98 H147 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

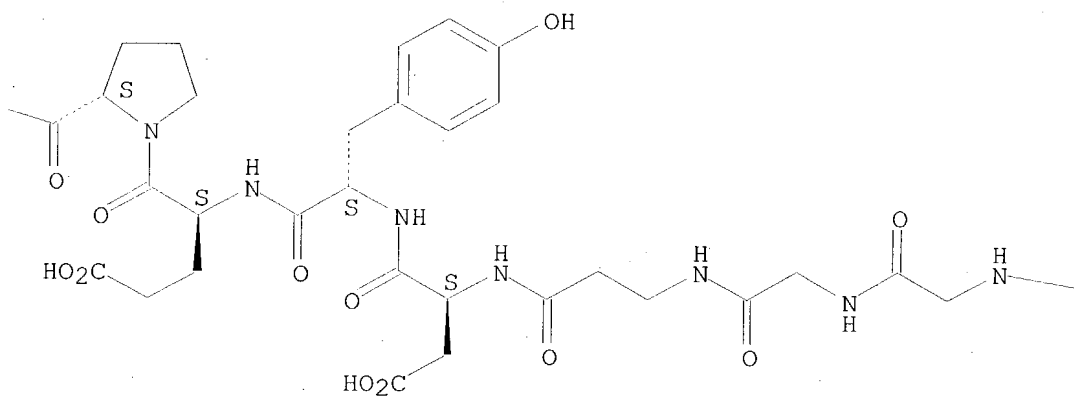
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

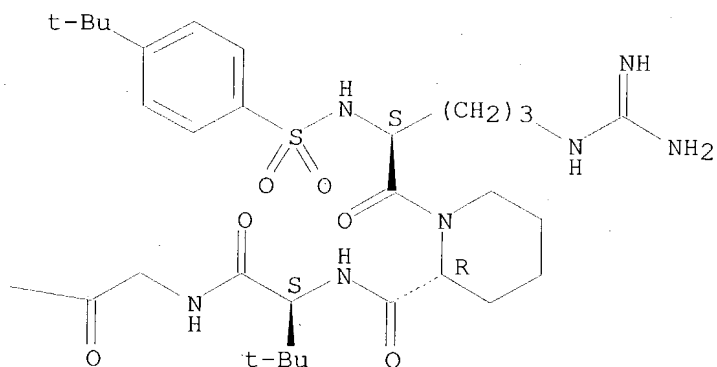
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 59 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-59-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-valylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S

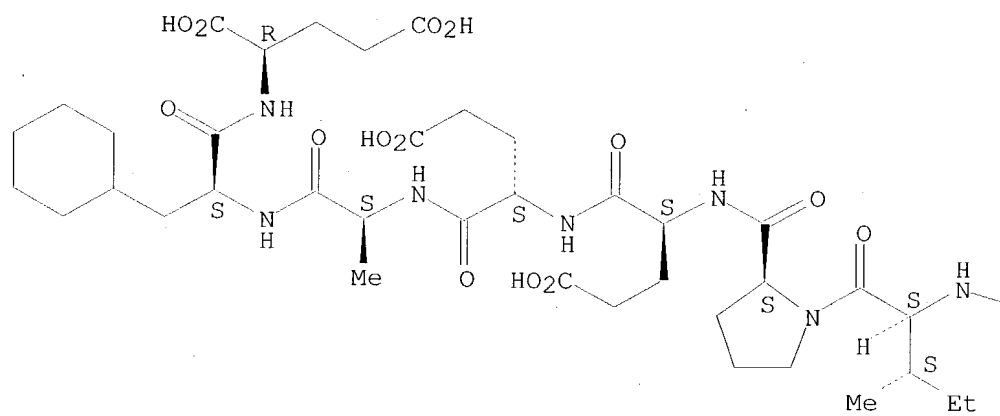
SR CA

LC STN Files: CA, CAPLUS

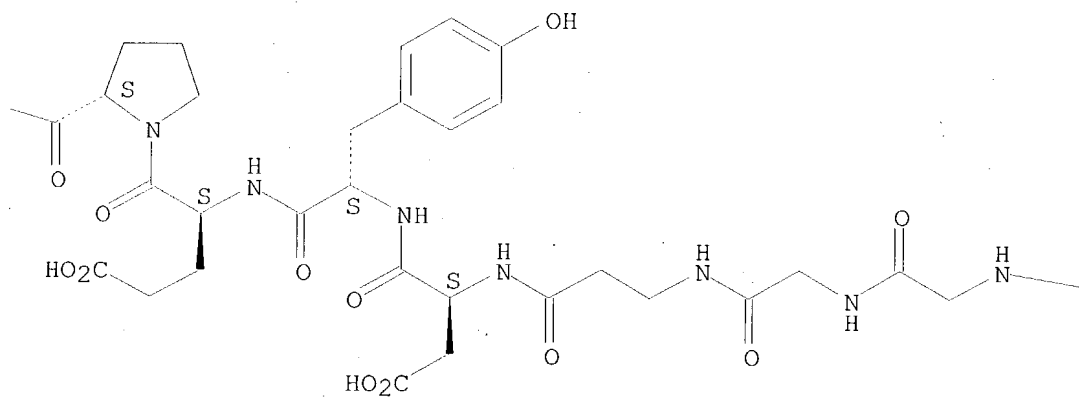
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

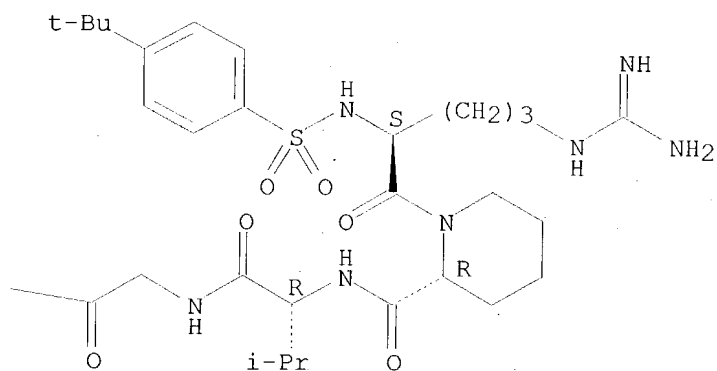
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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

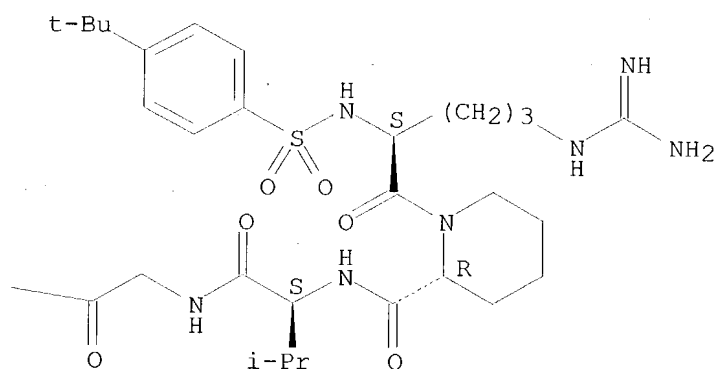
L10 ANSWER 60 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 223118-52-3 REGISTRY
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-valylglycylglycylglycyl-beta-alanyl-L-alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C97 H145 N21 O32 S
SR CA
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

CC(=O)N1CCCC1C(=O)N[C@@H](CC(=O)O)C(=O)NC(=O)SCc2ccc(O)cc2NC(=O)N[C@@H](CC(=O)O)C(=O)NCCCNC(=O)NCCNC(=O)NCCNC(=O)N

PAGE 1-C



2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 61 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-41-0 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-methionylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S2

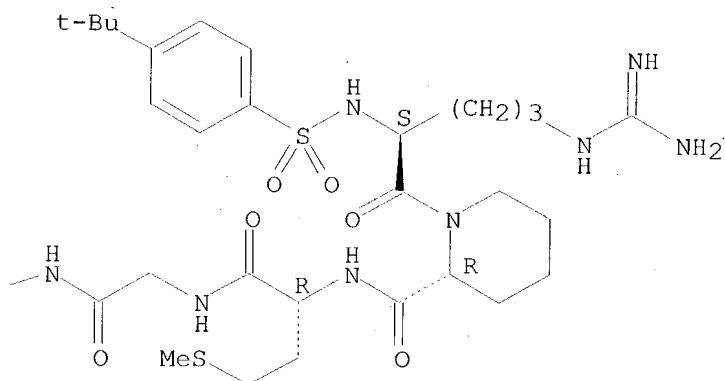
SR CA

LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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2 REFERENCES IN FILE CA (1907 TO DATE)
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REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 62 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-31-8 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-methionylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S2

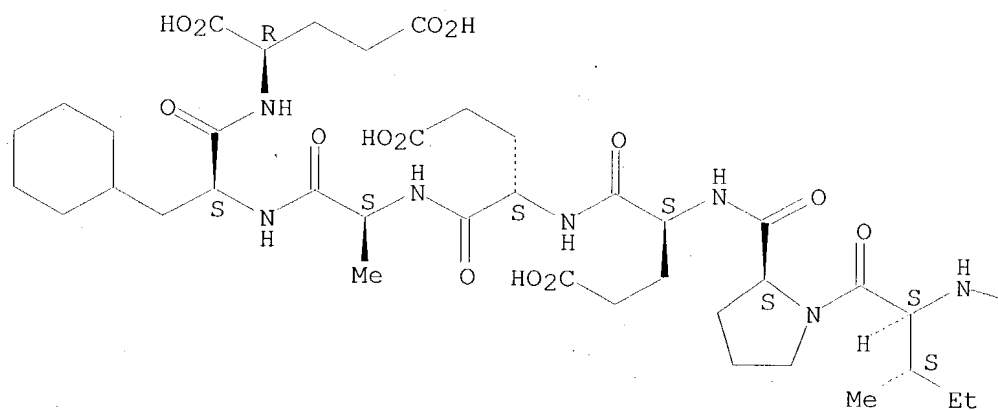
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LC STN Files: CA, CAPLUS

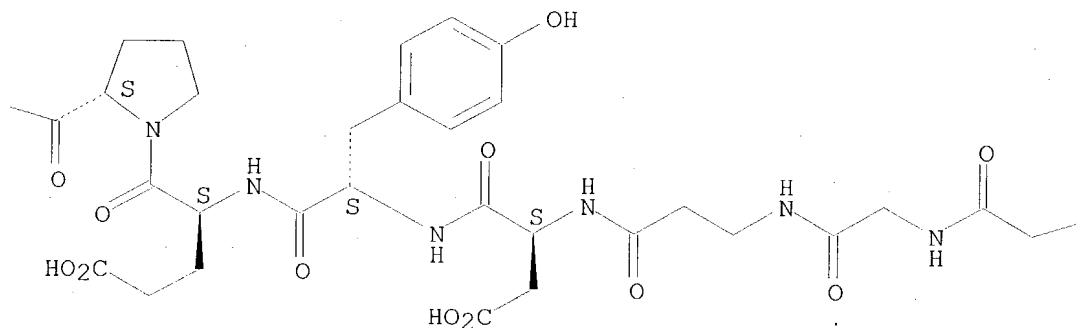
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

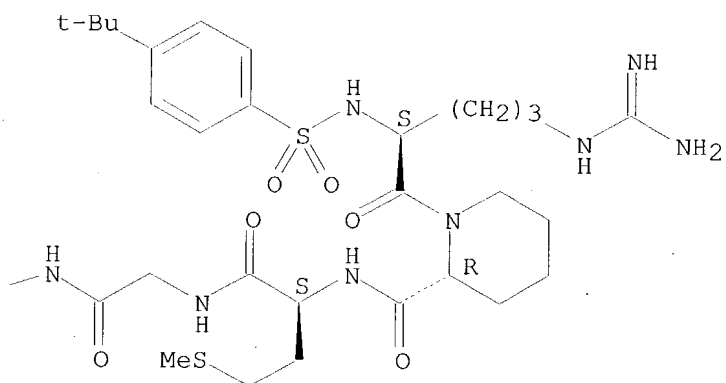
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REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 63 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223118-20-5 REGISTRY

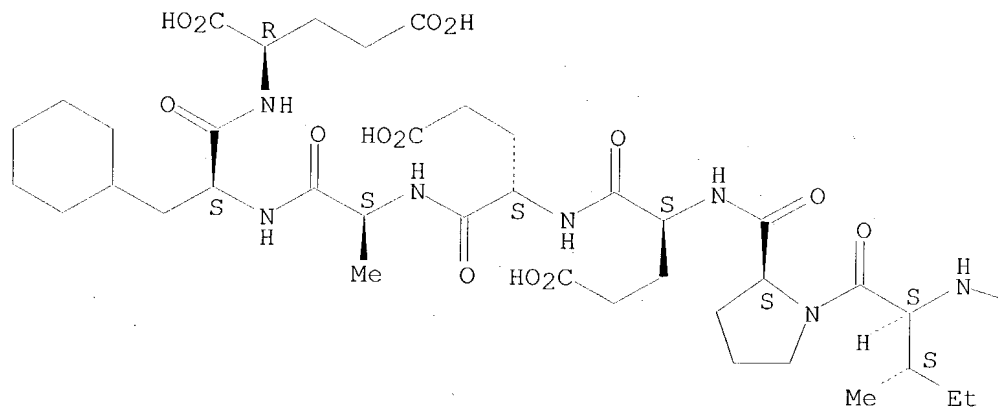
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 alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-
 isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-
 cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH
MF C97 H145 N21 O32 S2
SR CA
LC STN Files: CA, CAPLUS

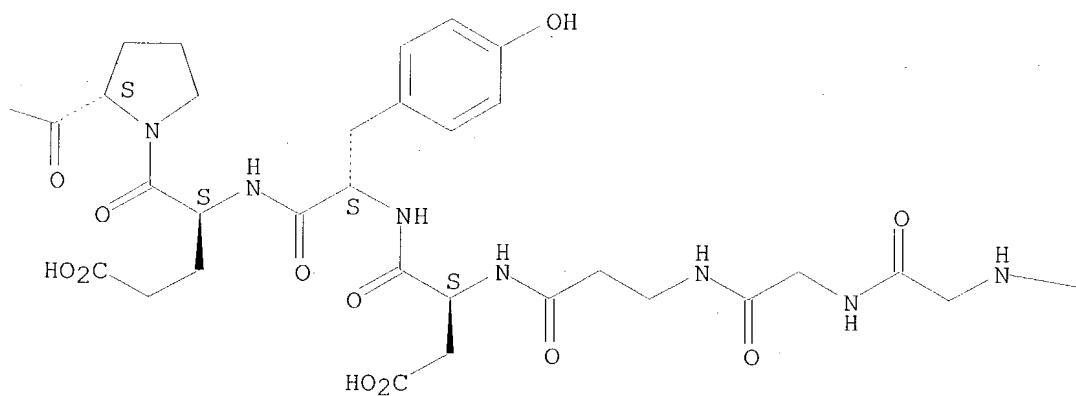
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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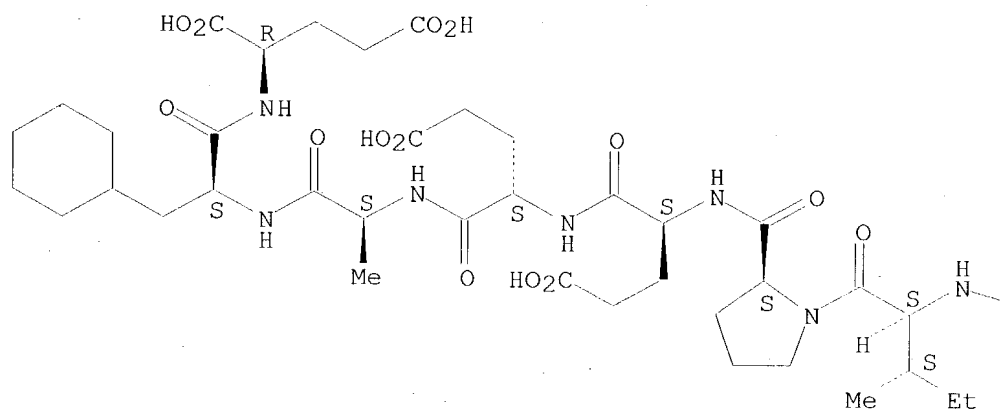
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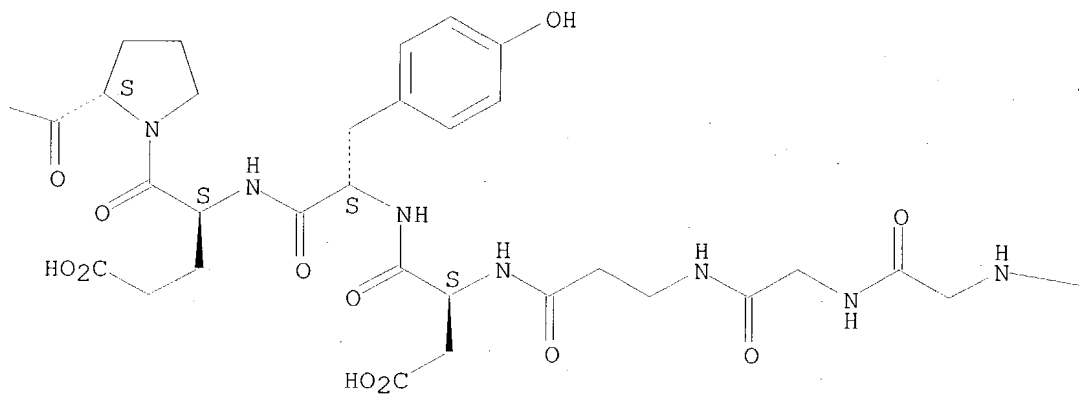
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Absolute stereochemistry.

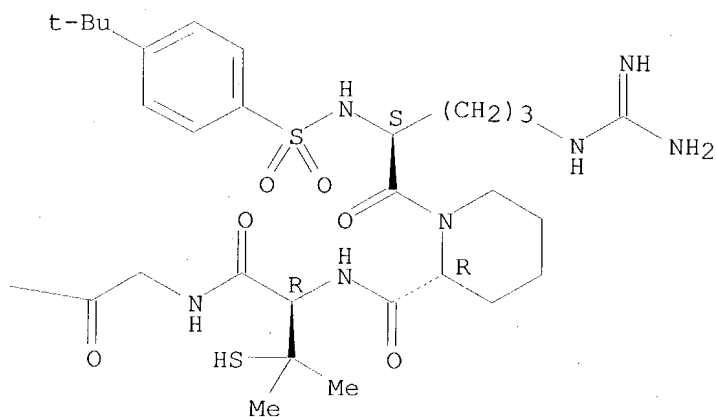
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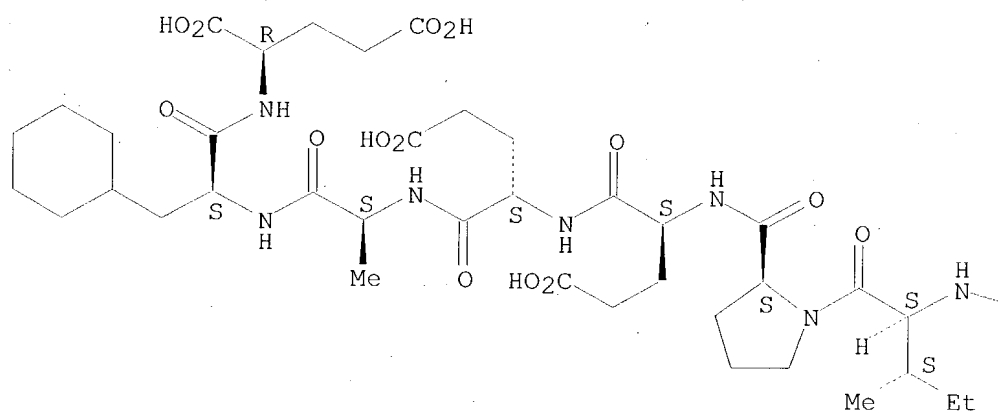
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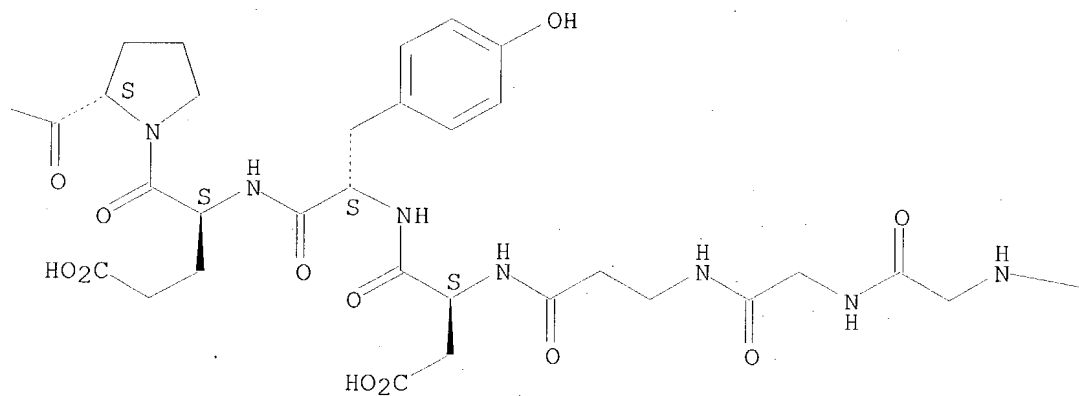
L10 ANSWER 65 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223118-04-5 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-L-cysteinylglycylglycylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C95 H141 N21 O32 S2
 SR CA
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

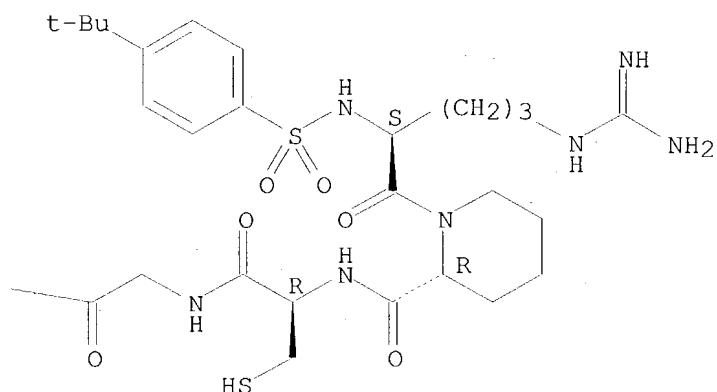
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PAGE 1-C



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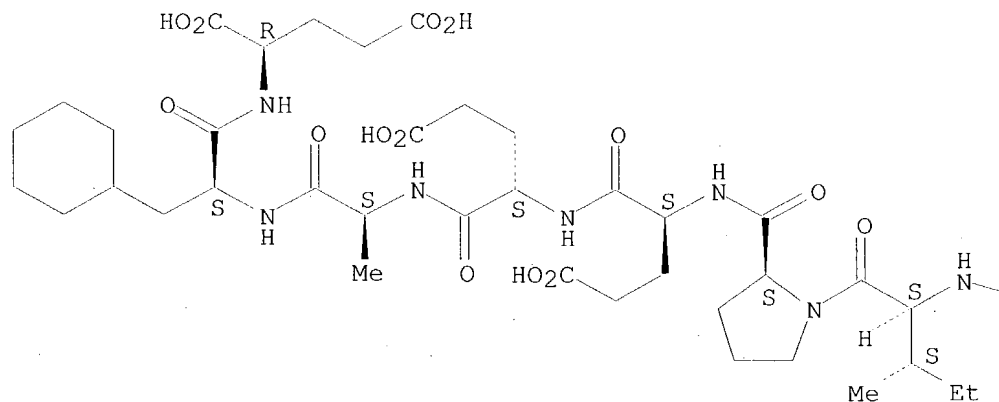
REFERENCE 1: 130:297001

L10 ANSWER 66 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223117-95-1 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-norleucylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C98 H147 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

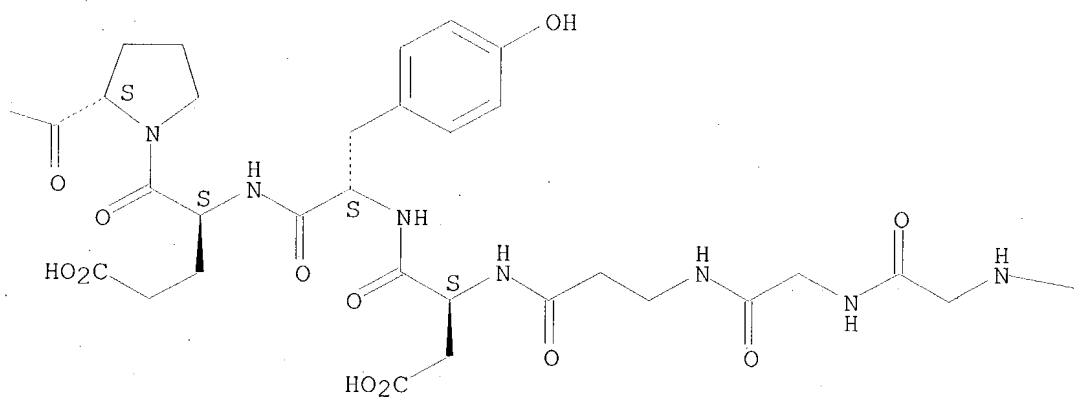
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

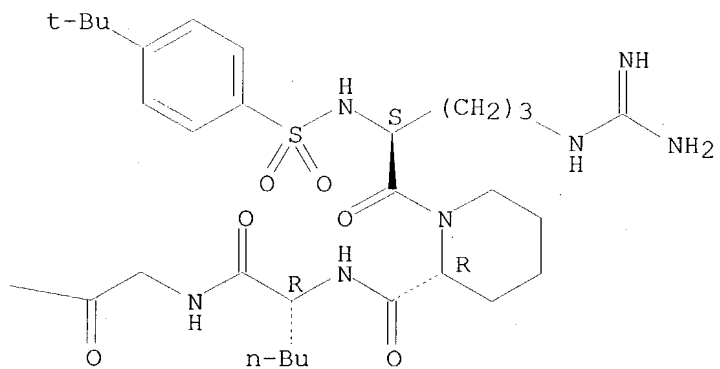
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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 67 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 223117-89-3 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-norleucylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C98 H147 N21 O32 S

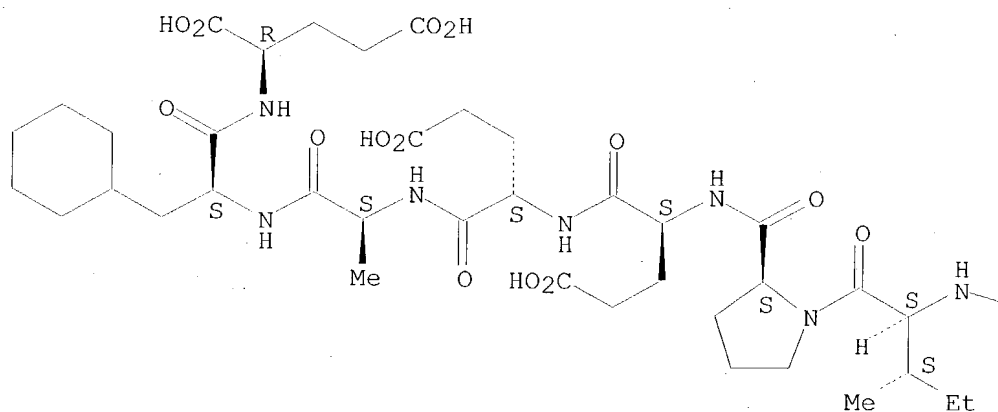
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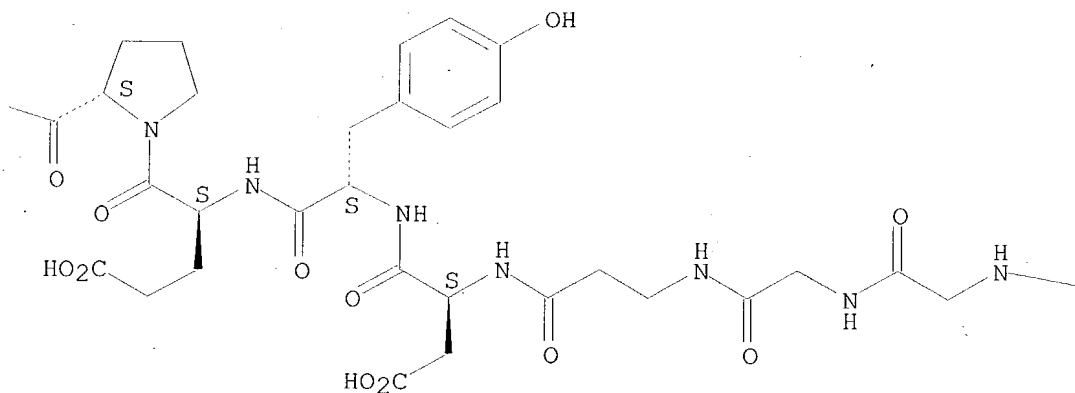
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

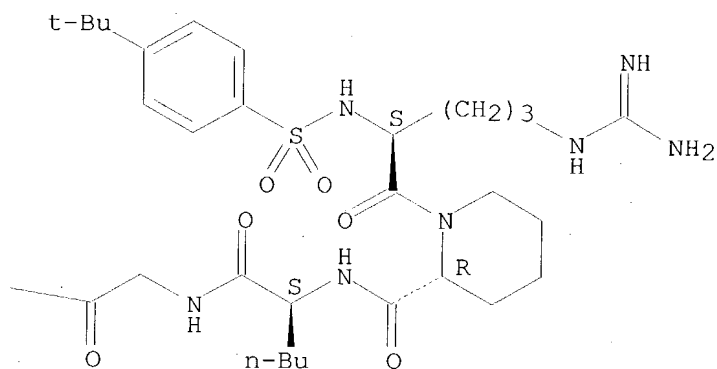
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2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 68 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223117-81-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-norvalylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S

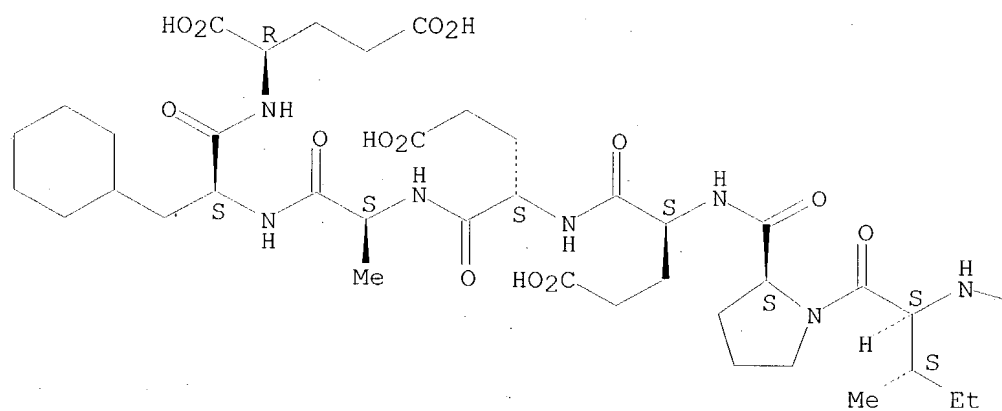
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LC STN Files: CA, CAPLUS

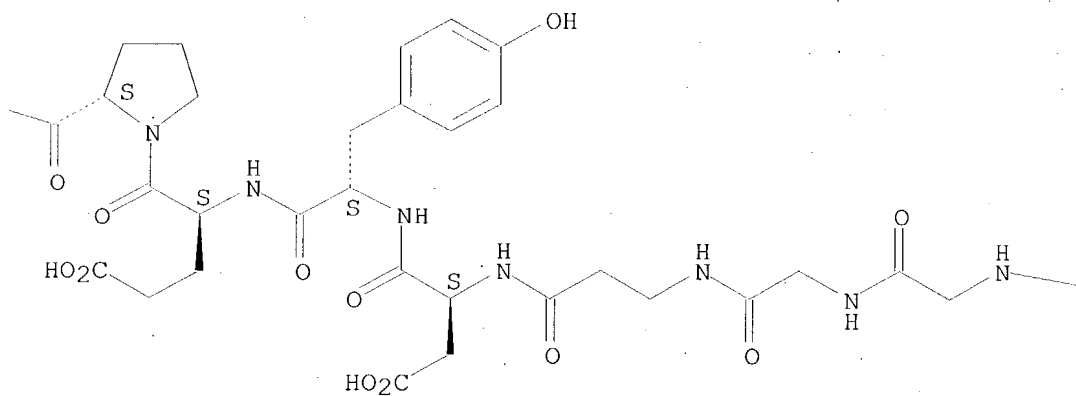
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

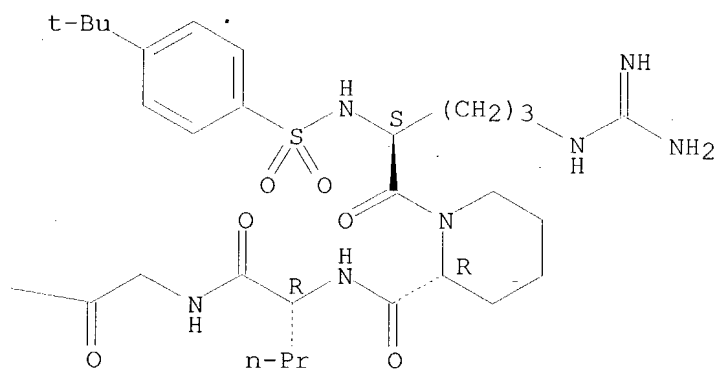
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2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 69 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223117-75-7 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-L-norvalylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C97 H145 N21 O32 S

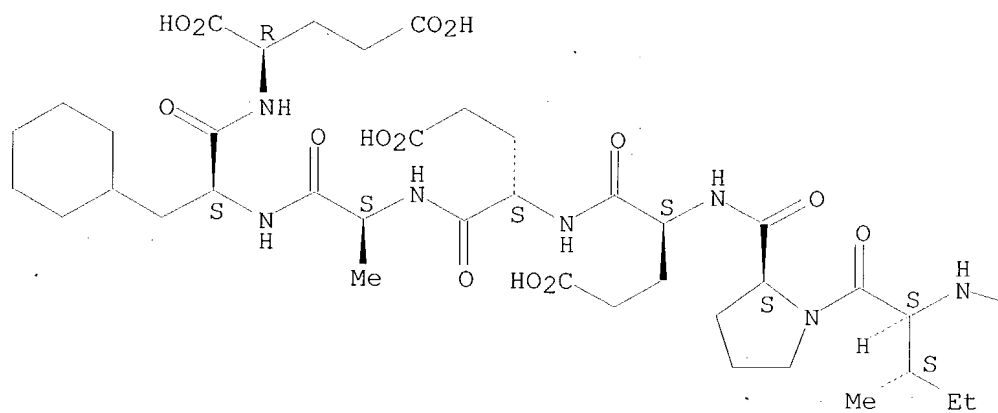
SR CA

LC STN Files: CA, CAPLUS

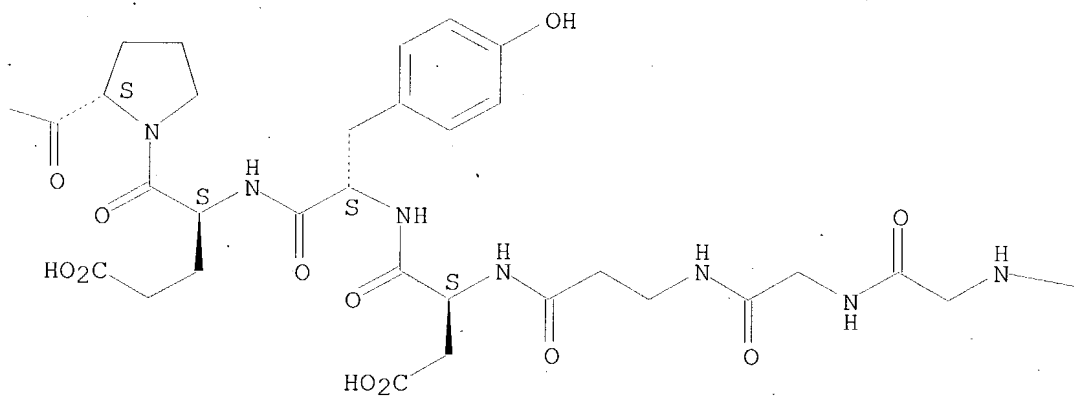
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

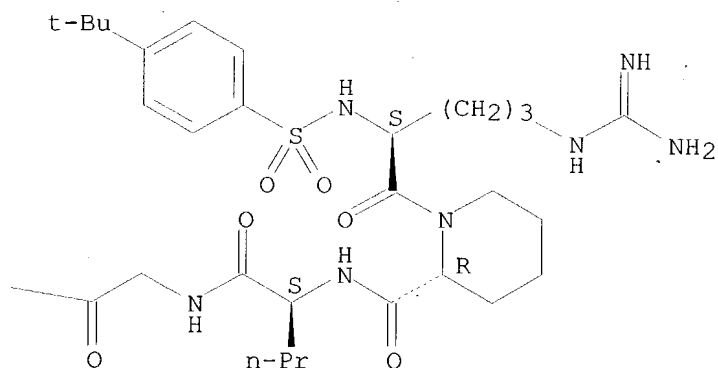
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2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 70 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223117-70-2 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(2R)-2-aminobutanoylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C96 H143 N21 O32 S

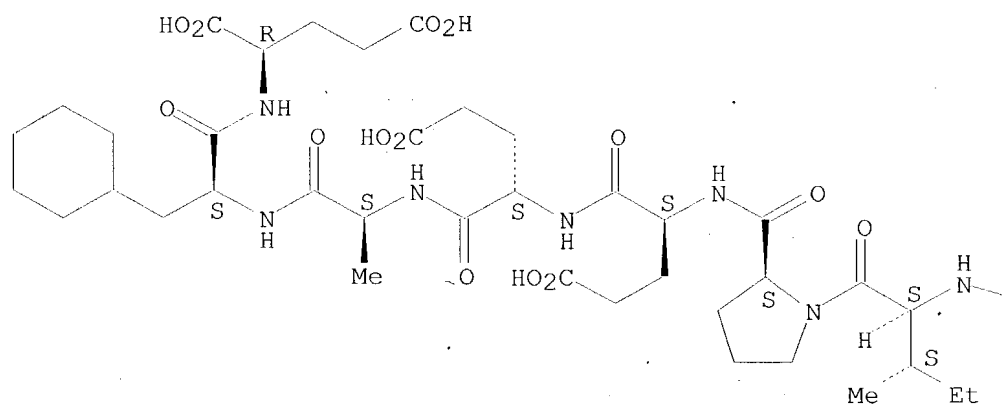
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LC STN Files: CA, CAPLUS

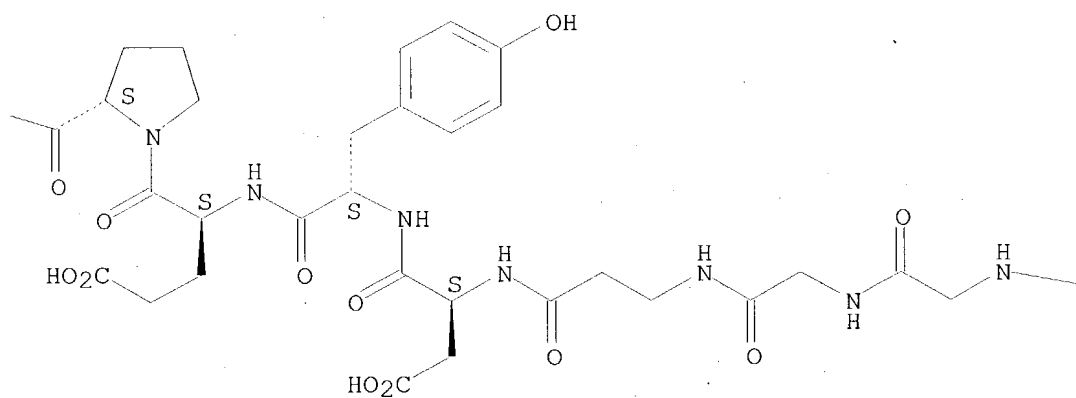
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

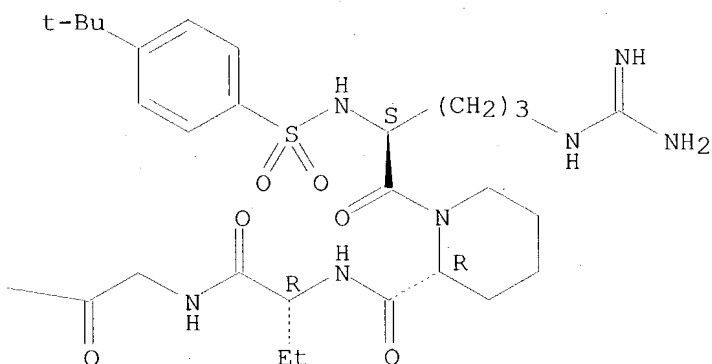
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REFERENCE 1: 132:262009

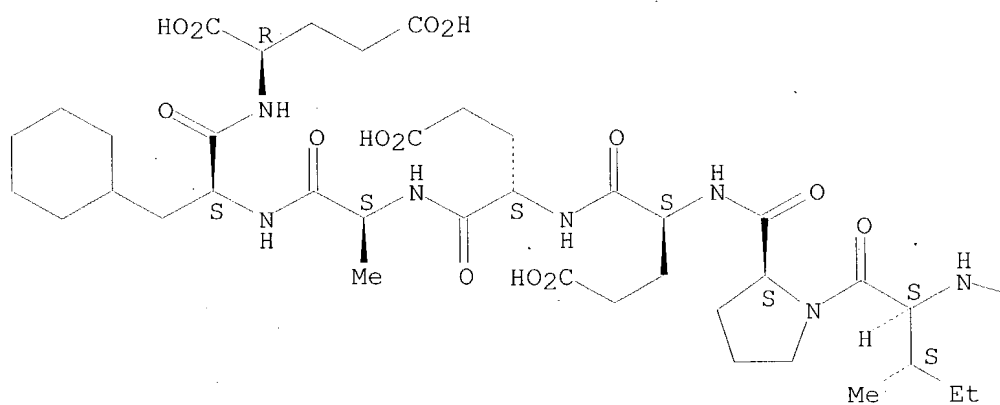
REFERENCE 2: 130:297001

L10 ANSWER 71 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 223117-64-4 REGISTRY
 CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-(2S)-2-aminobutanoylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C96 H143 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

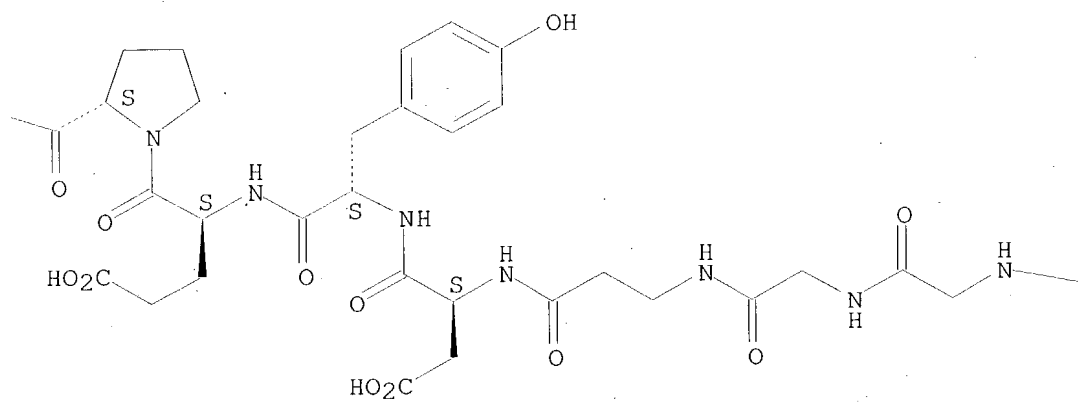
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

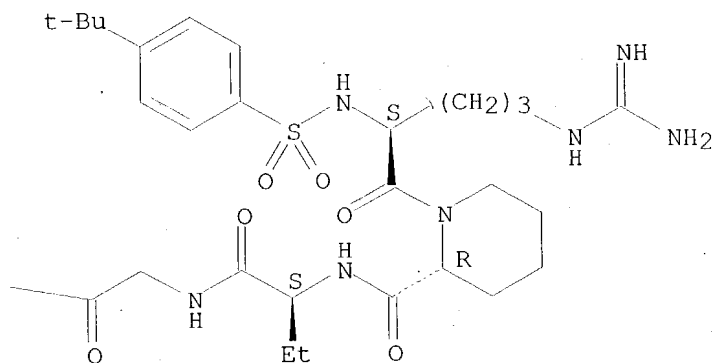
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 72 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 223117-53-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-2-methylalanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

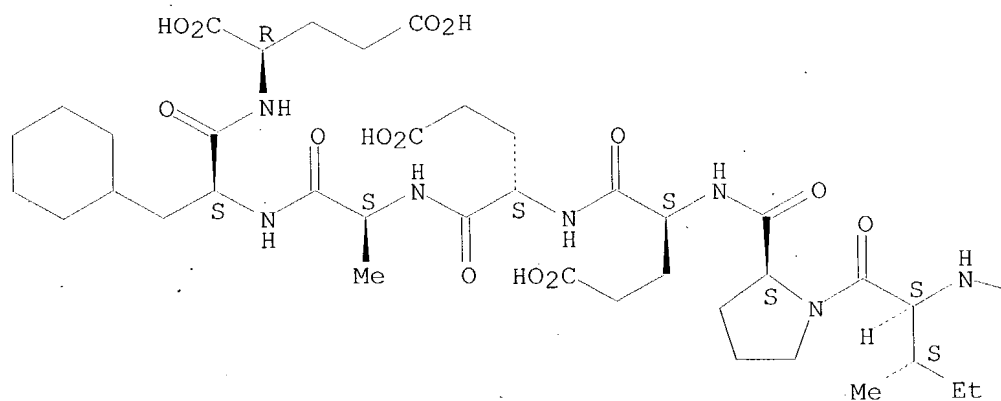
MF C96 H143 N21 O32 S

SR CA

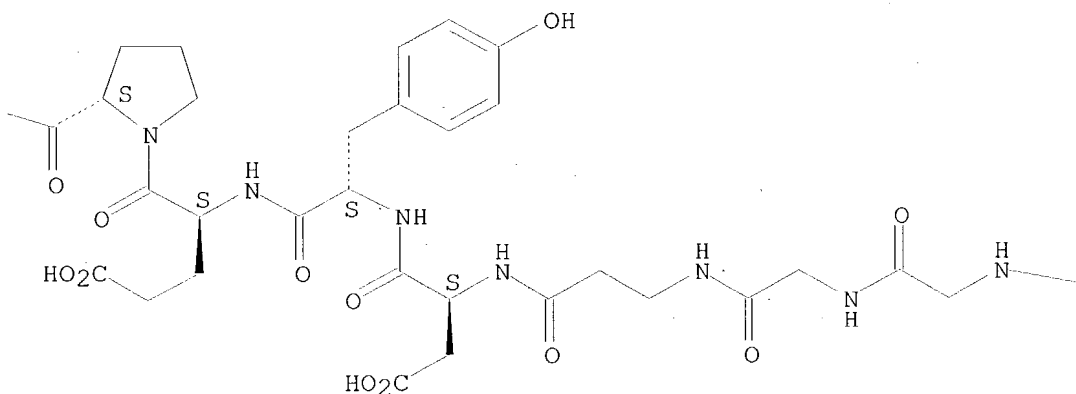
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

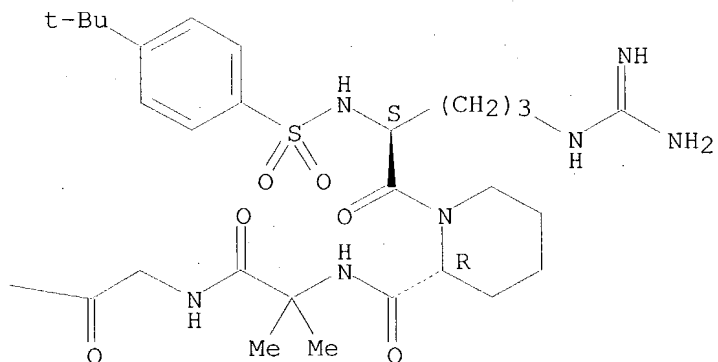
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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

L10 ANSWER 73 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 197519-06-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonyl-D-alanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C95 H141 N21 O32 S

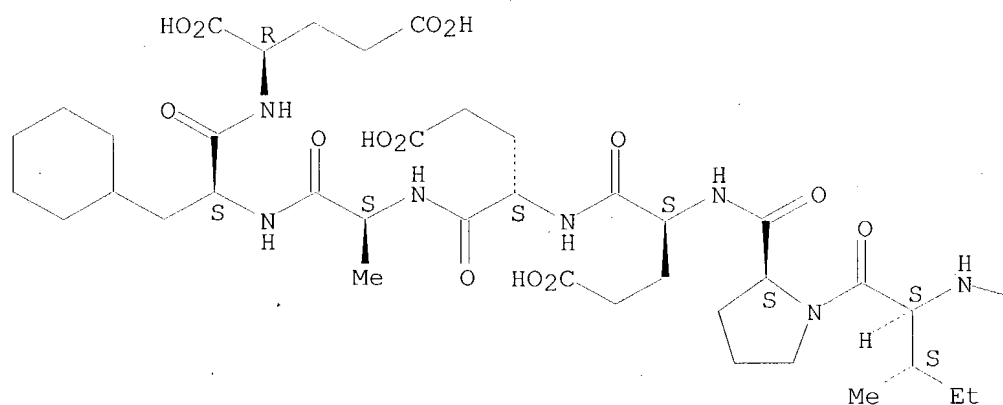
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LC STN Files: CA, CAPLUS

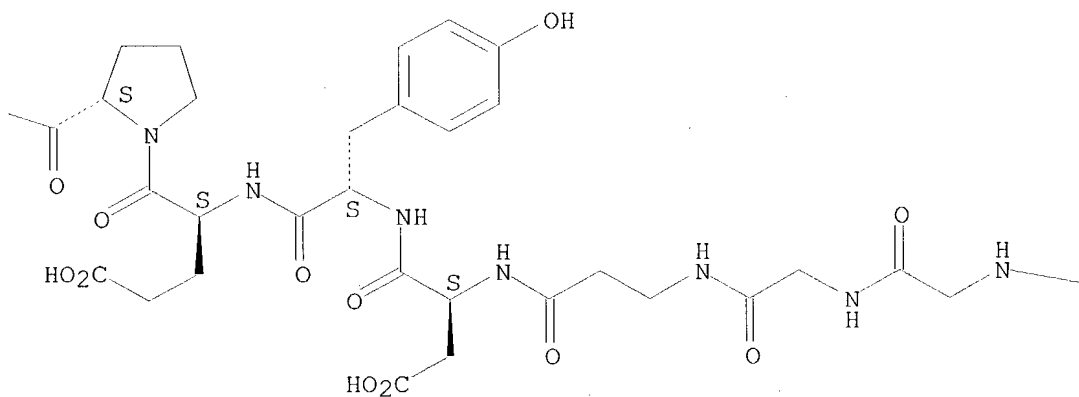
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

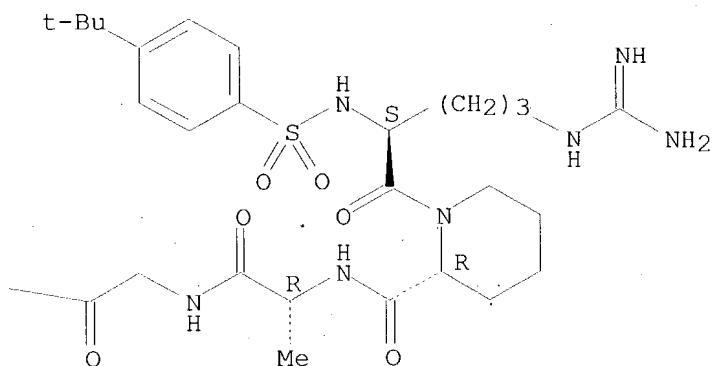
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3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

REFERENCE 3: 127:316126

L10 ANSWER 74 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 197518-27-7 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycylglycylglycyl-N-methyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C95 H141 N21 O32 S

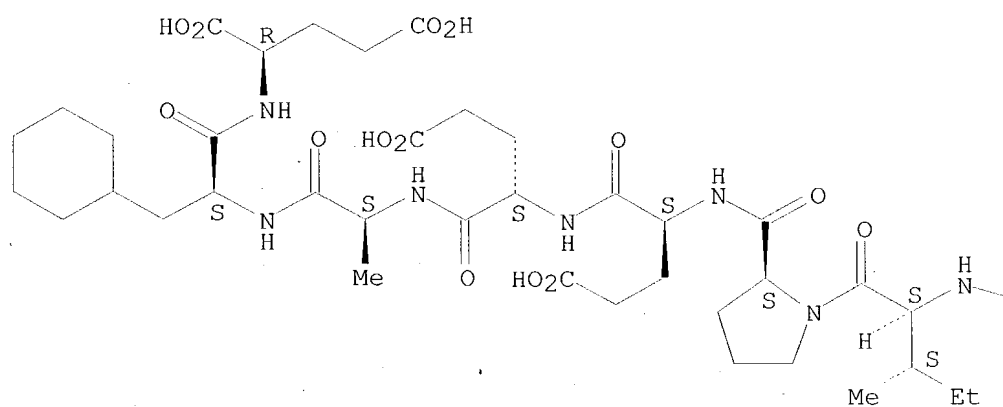
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LC STN Files: CA, CAPLUS

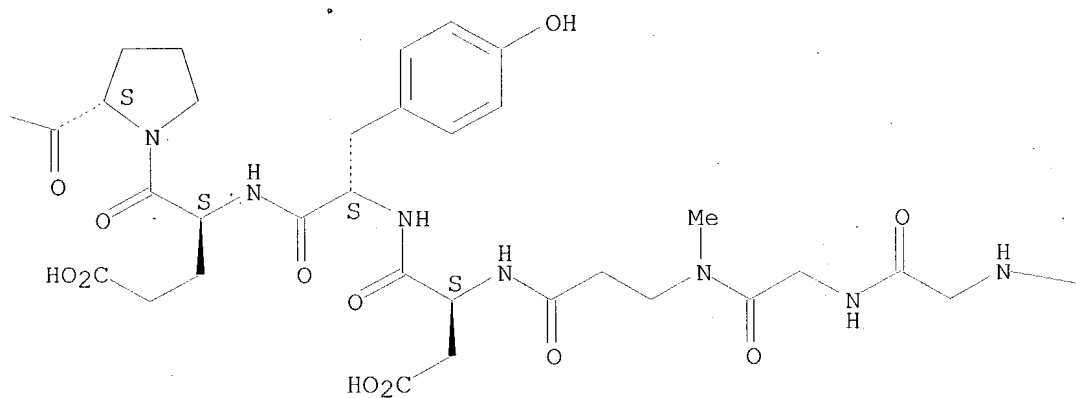
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

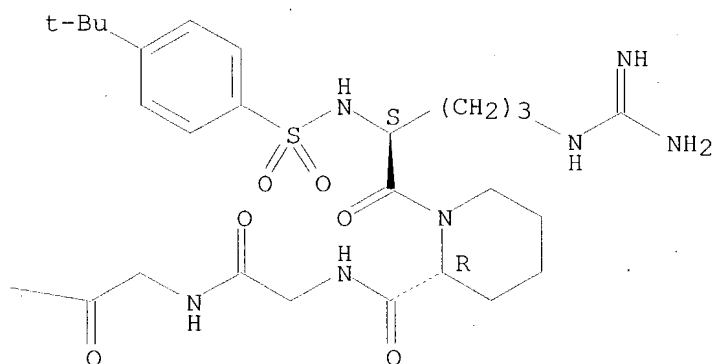
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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

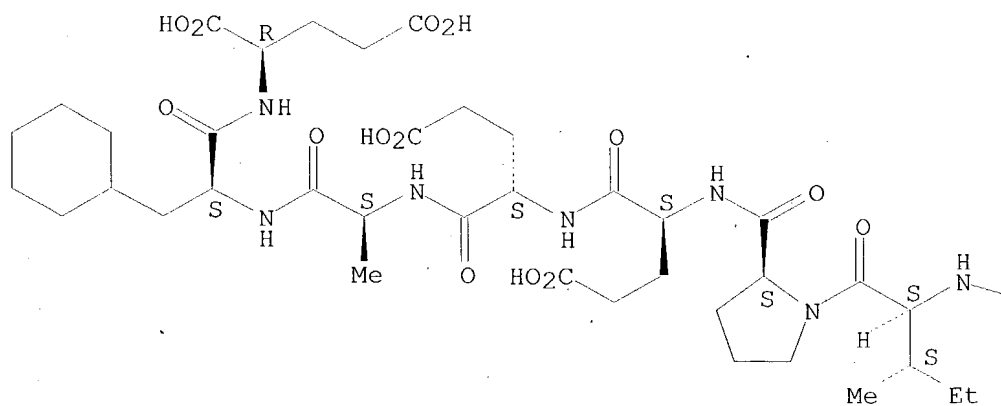
REFERENCE 1: 127:316126

L10 ANSWER 75 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 197518-19-7 REGISTRY
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycylalanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl-(9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C95 H141 N21 O32 S
SR CA
LC STN Files: CA, CAPLUS

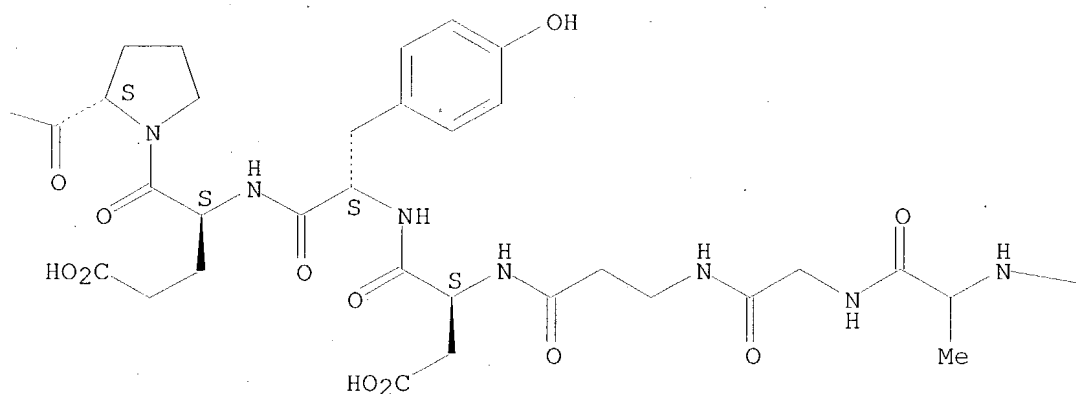
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

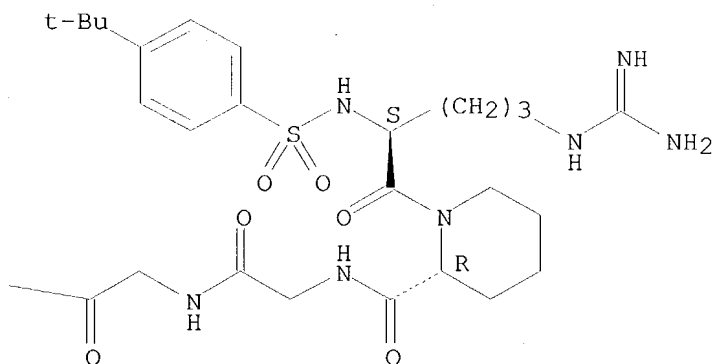
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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:316126

L10 ANSWER 76 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 197518-17-5 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
(2R)-2-piperidinecarbonylglycylglycyl-N-methylglycylglycyl-β-alanyl-L-
α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-

prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

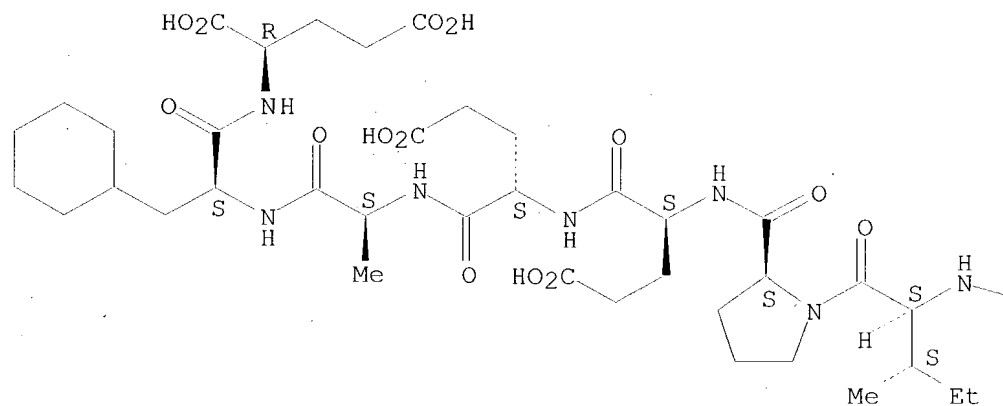
MF C95 H141 N21 O32 S

SR CA

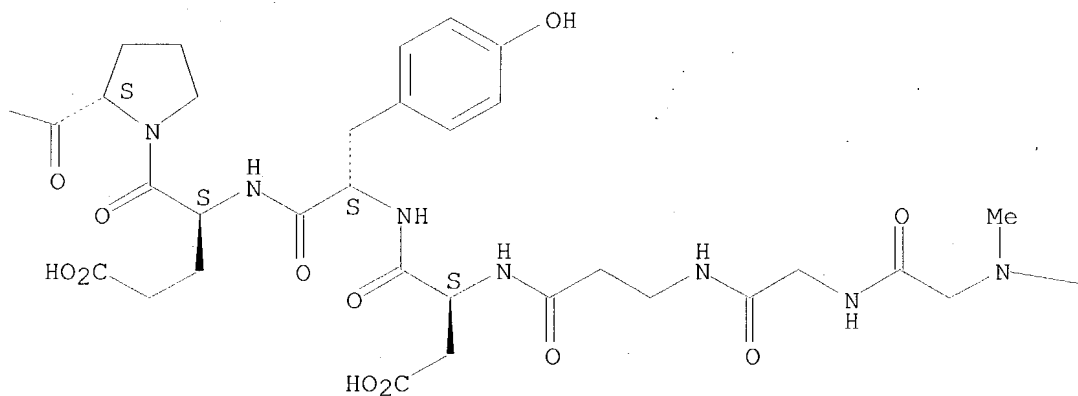
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

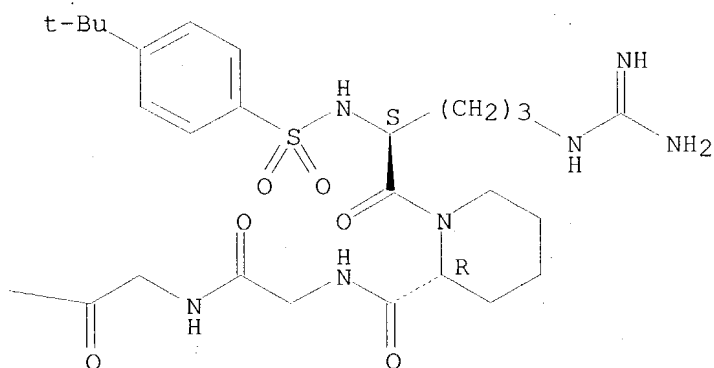
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1 REFERENCES IN FILE CA (1907 TO DATE)
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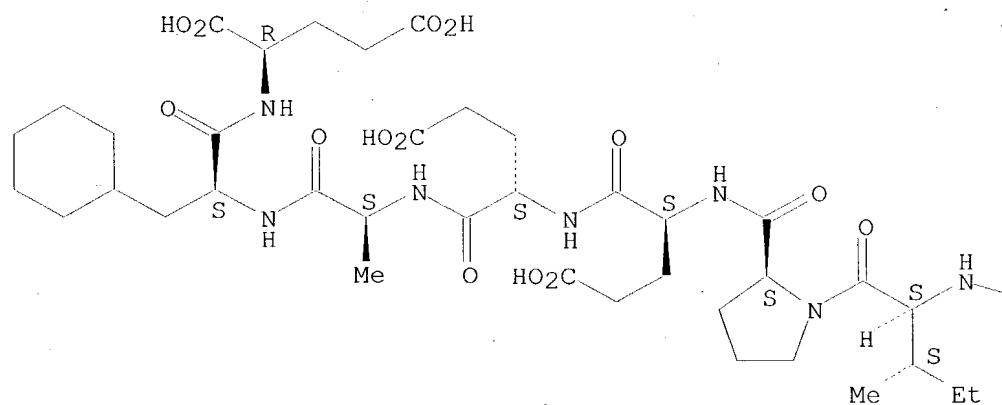
REFERENCE 1: 127:316126

L10 ANSWER 77 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 197518-12-0 REGISTRY
 CN **D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylalanylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl-(9CI)** (CA INDEX NAME)
 FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C95 H141 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

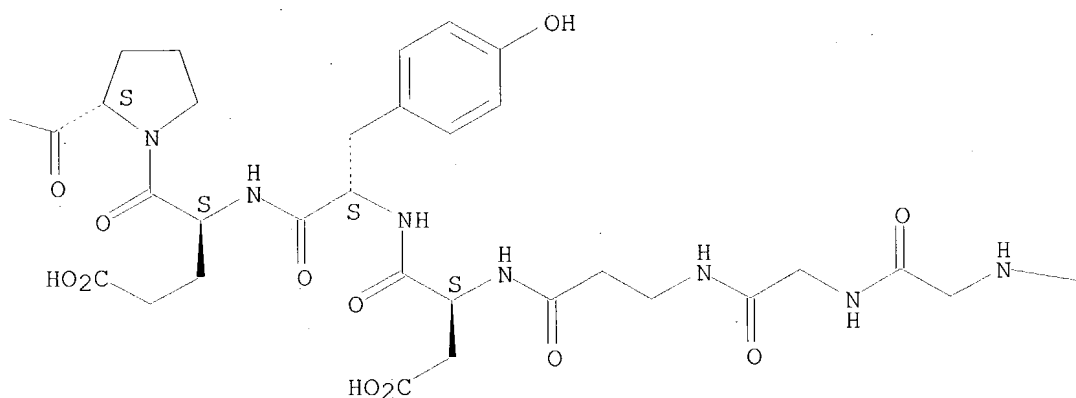
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

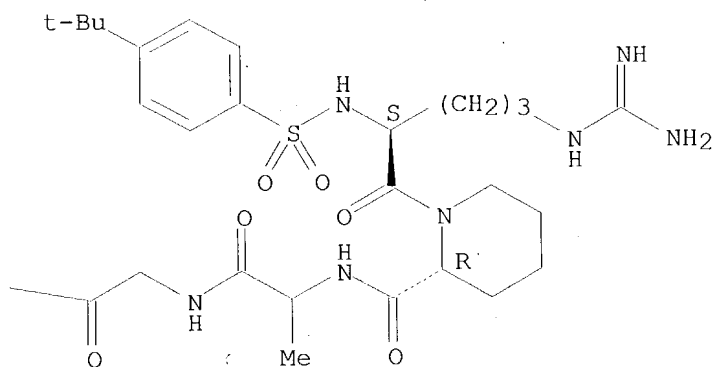
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1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:316126

L10 ANSWER 78 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 197518-11-9 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-N-methylglycylglycylglycylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-

prolyl-L- α -glutamyl-L- α -glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

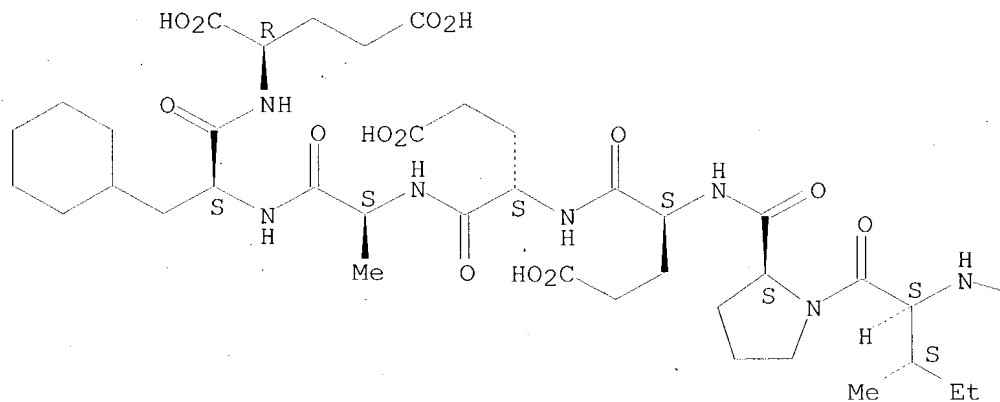
MF C95 H141 N21 O32 S

SR CA

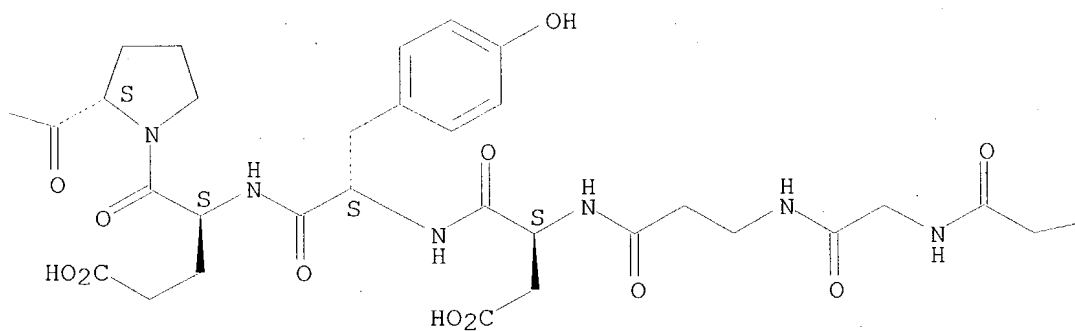
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

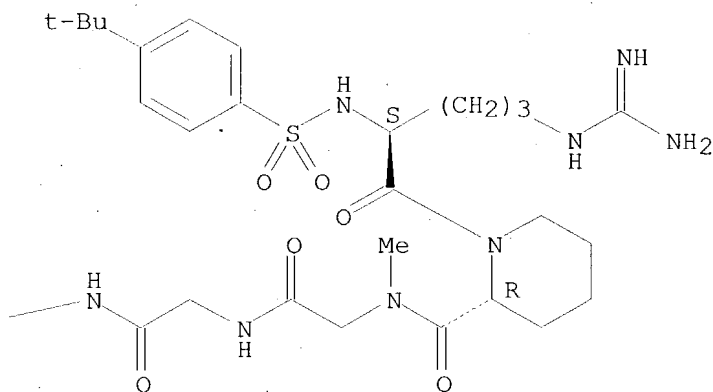
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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

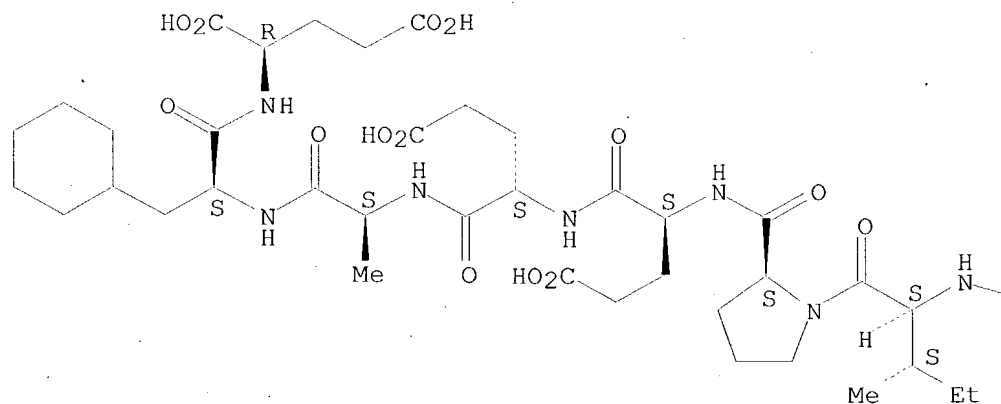
REFERENCE 1: 127:316126

L10 ANSWER 79 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 197518-08-4 REGISTRY
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycyl-D-alanylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C95 H141 N21 O32 S
SR CA
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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Chemical structure of compound 10, showing a thiazolidine ring substituted with an acetyl group and a carboxymethyl group, linked via an amide bond to a chain containing a 4-hydroxybenzyl group, a carboxymethyl group, and a long flexible linker ending in a carboxamide group.

L10 ANSWER 80 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN
RN 197518-07-3 REGISTRY
CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-

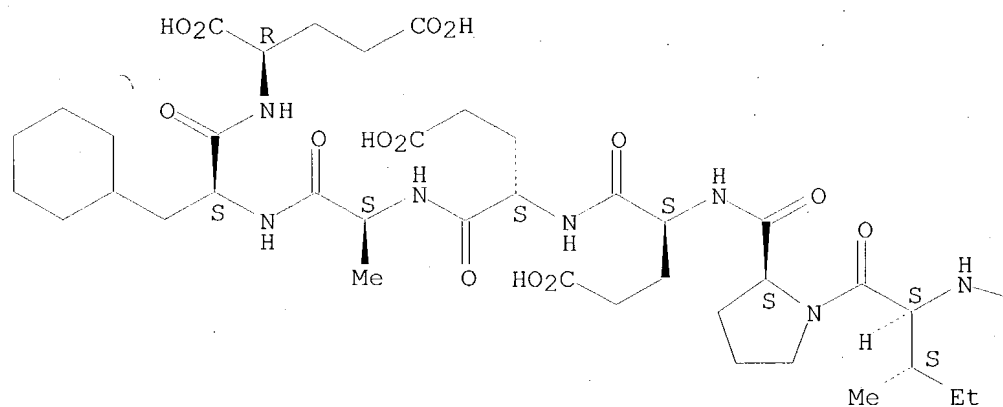
(2R)-2-piperidinecarbonylglycylglycyl-L-alanylglycyl-β-alanyl-L-
 α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH
 MF C95 H141 N21 O32 S
 SR CA
 LC STN Files: CA, CAPLUS

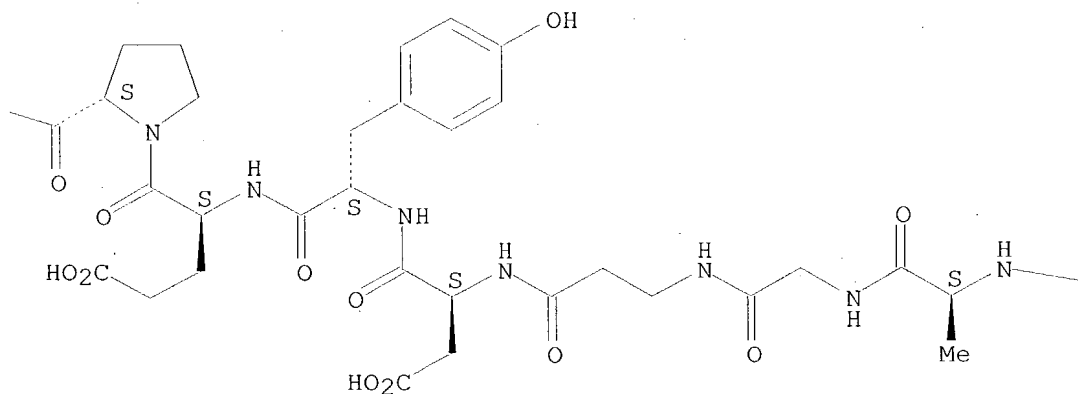
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

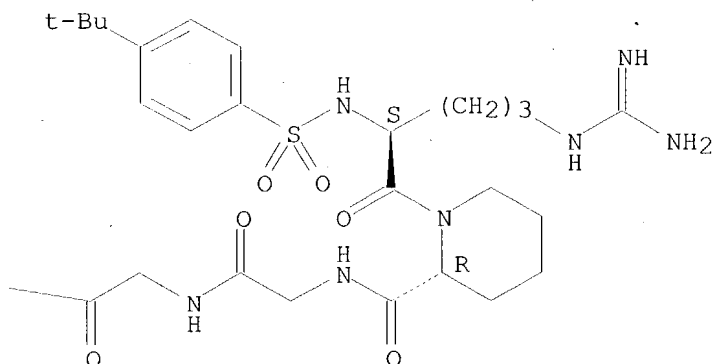
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3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

REFERENCE 3: 127:316126

L10 ANSWER 81 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 197518-06-2 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-
 (2R)-2-piperidinecarbonyl-L-alanylglycylglycylglycyl-beta-alanyl-L-
 alpha-aspartyl-L-tyrosyl-L-alpha-glutamyl-L-prolyl-L-isoleucyl-L-
 prolyl-L-alpha-glutamyl-L-alpha-glutamyl-L-alanyl-3-cyclohexyl-L-
 alanyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

MF C95 H141 N21 O32 S

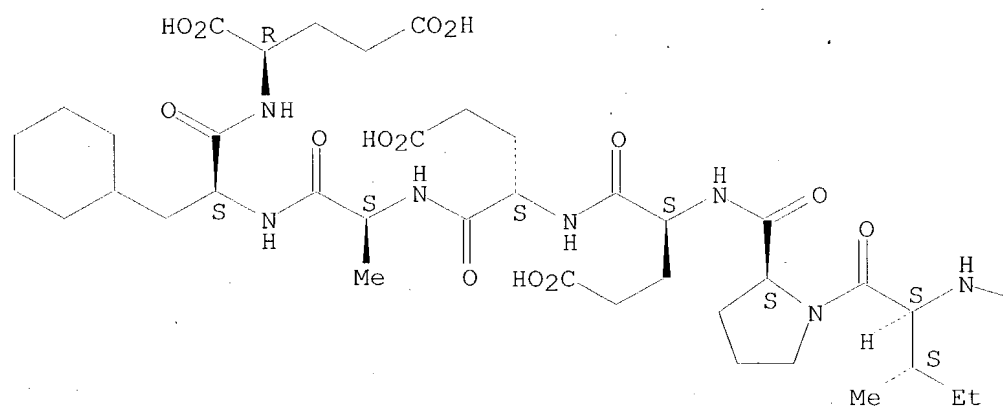
SR CA

LC STN Files: CA, CAPLUS

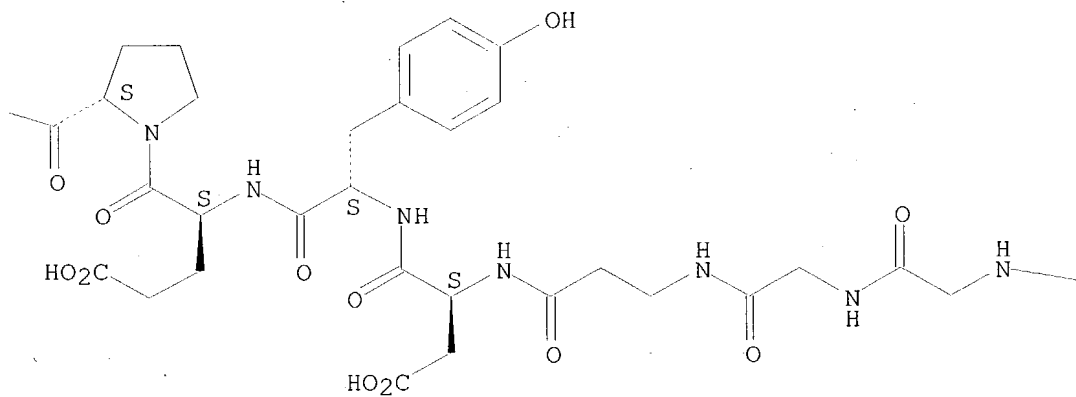
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

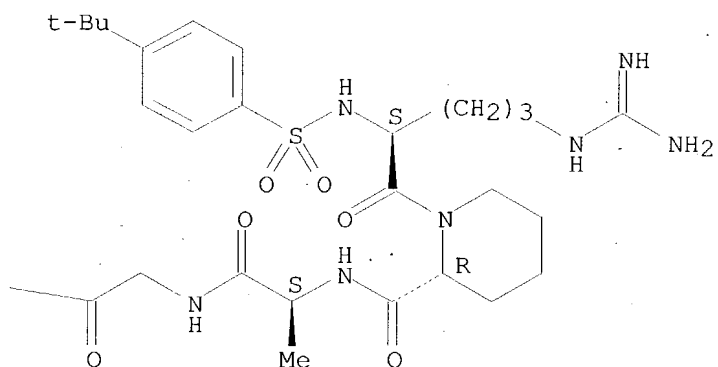
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3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

REFERENCE 3: 127:316126

L10 ANSWER 82 OF 82 REGISTRY COPYRIGHT 2004 ACS on STN

RN 197518-05-1 REGISTRY

CN D-Glutamic acid, N2-[[4-(1,1-dimethylethyl)phenyl]sulfonyl]-L-arginyl-(2R)-2-piperidinecarbonylglycylglycylglycylglycyl-β-alanyl-L-α-aspartyl-L-tyrosyl-L-α-glutamyl-L-prolyl-L-isoleucyl-L-prolyl-L-α-glutamyl-L-α-glutamyl-L-alanyl-3-cyclohexyl-L-alanyl-(9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

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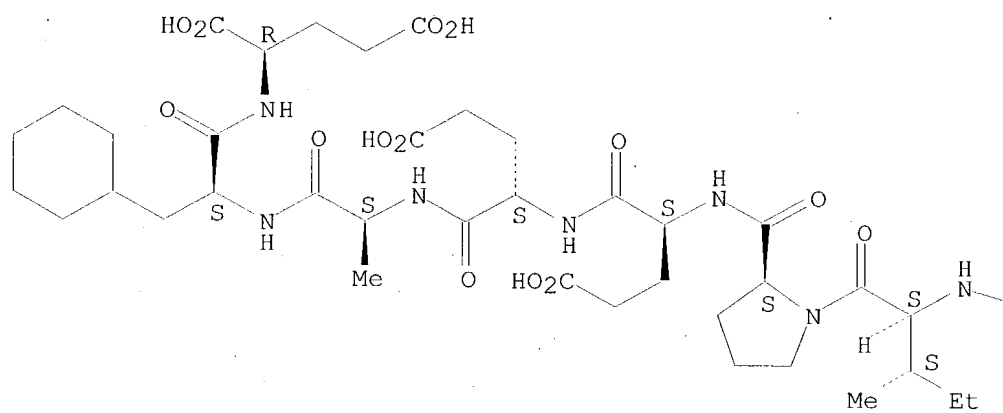
SR CA

LC STN Files: CA, CAPLUS

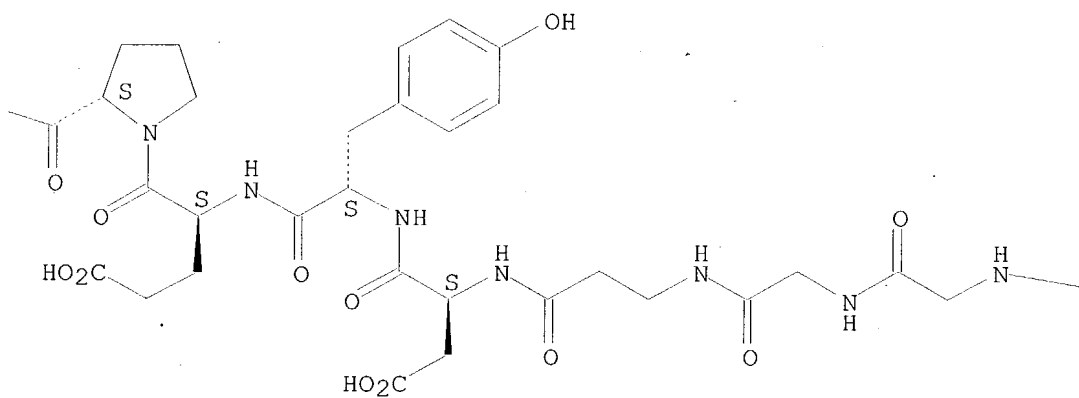
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

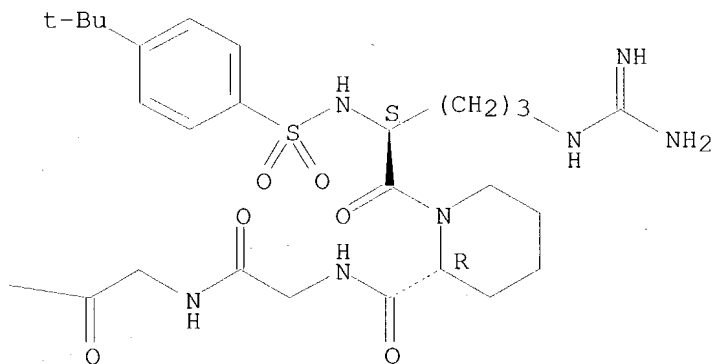
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3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:262009

REFERENCE 2: 130:297001

REFERENCE 3: 127:316126

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